FLIGHT

AUGUST 1955
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Technology

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THE NEW AERO COMMANDER 560A

(See page 20)

Air Forces give McDonnell's new debutante a big rush!

TEMCO HELPS PRODUCE POPULAR F-101 *VOODOO*

When the F-101 made her first public bow, she was already a much sought after plane. Designed as a long-range fighter, the *Voodoo* will first be assigned to the Strategic Air Command to escort our jet bombers. But interceptor and tactical air groups also are casting covetous looks at this big new jet. Reportedly the most powerful fighter in the world capable of cruising at well over the speed of sound for hours, she is wanted for defense against bombers and for use as a supersonic fighter-bomber.

To facilitate production of this important plane, TEMCO was called upon to fabricate aft fuselage sections. The award of this contract indicates the thoroughly satisfactory manner in which TEMCO has been handling work on another McDonnell fighter, the F3H *Demon*, and further establishes TEMCO's reputation for producing a quality product, on schedule, at the lowest possible cost.

Final assembly and inspection of aft fuselage section of F-101 prior to delivery to McDonnell.

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In the 1920's, converted military planes were used; and big tri-motor Fords carried heavy cargoes to areas otherwise inaccessible . . . World War II proved the value of flying freighters when the U. S. Army, Navy and the airlines established an aerial life line to speed vital war supplies to our far-flung battle fronts.

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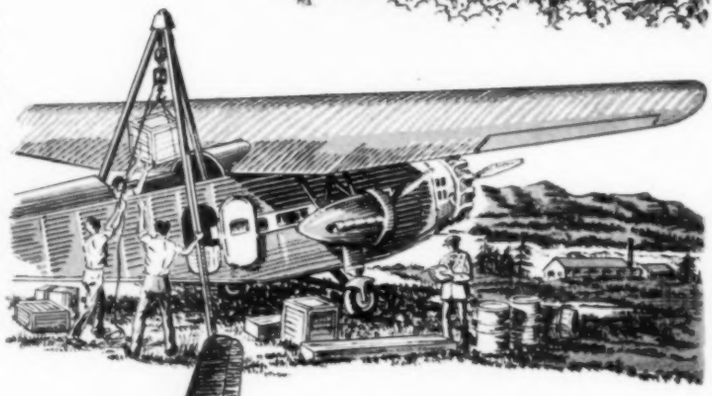

Modern cargo planes like the Douglas-124 *Globemaster* carry a payload of 50,000 pounds.

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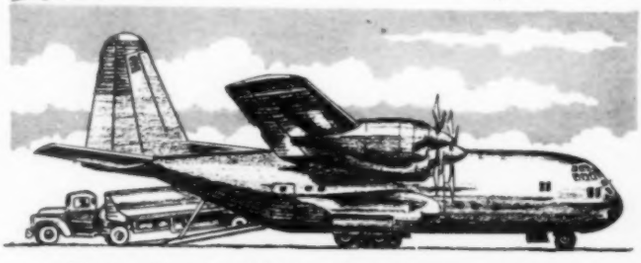

The Lockheed C-130 *Hercules* turbo-prop military cargo transport carries a 40,000 pound payload and can accommodate a bulldozer, a tank, tractor-trailer or other bulky loads.

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AIR Report
Significant Trends and News

ON-SCHEDULE DELIVERY OF ITS FIRST USAF ALLISON JET ENGINE OVERHAUL MONTHLY QUOTA was made by Southwest Airmotive in July. The Dallas firm, first fixed-base operator to obtain a military jet overhaul order, has contracted to overhaul more than 1,200 Allisons for $3,000,000 and has rushed to completion new jet overhaul facilities at Love Field and nearby Amon Carter Airport. Louis Beimer superintends the Love Field shop, with James Wall in charge of its jet operations, while James E. Mays heads the new jet test plant at Carter Field.

A NEW $5,000,000 FACILITY BETWEEN DALLAS AND FT. WORTH will be constructed by Menasco Manufacturing Co., Burbank, which produced $18,000,000 worth of aircraft landing gears and missile components last year. Henry P. Nelson, president, said 42 acres of industrial property had been acquired 2 miles from Amon Carter Airport near the intersection of State Highways 183 and 157 for a 100,000-sq. ft. factory employing 500 persons in the production of new items yet to be announced.

A CESSNA 310 FOR THE PRESIDENT OF THE PHILIPPINES has been shipped to Manila and is now being used by President Ramon Magsaysay. A second Twin Cessna will follow it for use of the Philippine defense minister. Robert A. Prokes, Cessna technical representative, went to Manila and supervised assembly of the president's airplane.

TWO LEARSTARS have been ordered by U. S. Steel. The Lear plant at Santa Monica has already delivered Learstars to Burroughs Corp., Detroit; Chance Vought Aircraft, Dallas; British American Oil, Toronto; Johnson & Johnson, New Brunswick, N. J., and Charles B. Wrightsman, Palm Beach.

JET FUEL AND OIL FOR BUSINESS PLANES will be made available by Shell Oil wherever and whenever needed, says Shell Aviation Manager J. S. Harris.

BEECH AIRCRAFT IS OPENING A NEW ENGINEERING FACILITY at Boulder, Colorado, for classified projects. The National Bureau of Standards laboratory is located there and is being used in connection with Beech development projects. Leased space in the Citizens Building in downtown Boulder will accommodate 75 engineers. . . . **BEECH SALES EXCEEDING $59,000,000** have been reported for the first nine months of this fiscal year, with the firm declaring a stock dividend in addition to its regular 30-cent quarterly dividend.

LYCOMING'S NEW XT-53 GAS TURBINE, first U. S.-developed free-power turbine with front-end drive, will power the new Bell XH-40 helicopter (above) for the Army. The shafted turbine has an 825-hp. maximum and 770-hp. continuous operation rating. The engine is one of two Lycoming jets under development for the Air Force. It is described as a "work horse" engine and is suitable for fixed-wing aircraft. The new Bell helicopter has an 800-lb. payload for 4 to 6 passengers with high altitude capabilities.
—(Bell Photo.)

A MILLION-DOLLAR FACILITY IN EL PASO is being established by
(Continued on page 34)

FLIGHT MAGAZINE
Including SOUTHERN FLIGHT and MODERN AIRPORTS

AUGUST, 1955 VOL. 44, No. 2

COVER: A longer cabin is emphasized in this month's cover portrait of the new Aero Commander 560A. The added length comes from a 10-inch "stretch." This picture also shows the Commander's new nacelles, which all but conceal its exhaust augmentor tubes. For complete details, see page 20.
—(Aero Design Photo by Wayne Entriken.)

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Just Among Ourselves—EDITORIALS: ONLY A STARTER FOR AIRPORTS; THE STRANGE CASE OF THE FLYING FINNS; IKE'S NEW PLANE 13

Special Executive Version of the Heron—DE HAVILLAND OFFERS A NEW DE LUXE CABIN FOR ITS 4-ENGINE BUSINESS TRANSPORT 19

The New Aero Commander 560A—BY TOM ASHLEY—MORE CABIN USEFULNESS, NEW ENGINE INSTALLATIONS AND NEW LANDING GEAR FOR PROGRESS 20

Flying for Business—ANOTHER EXAMPLE OF THE AIRPLANE'S CONTRIBUTION TO THE EXPANSION OF BUSINESS OPERATIONS . 23

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GEORGE E. HADDAWAY, Editor-Publisher; TOM ASHLEY, Managing Editor; FRED N. STONES, JR., Business Manager; E. H. PICKERING, Consultant; P. O. Box 750 (1901 McKinney Ave.), Dallas, Texas—Telephones STerling 2125

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STOP
ON TIME

The B-47 Jet Bomber is built to GO and go it does with a speed that challenges the imagination (London, England to Limestone, Maine in 4 hours and 43 minutes) even in this day of supersonic speeds by smaller planes. But when it's time to come down, landing and stopping this 6-jet aircraft must be done with both accuracy and dependability. To accomplish this, Boeing Airplane Company uses Pioneer specially-built deceleration 'chutes to approach the runway and larger ribbon 'chutes to shorten the landing roll — a maneuver that has won the praise of the aviation industry — of which Pioneer is proud to be an integral part.

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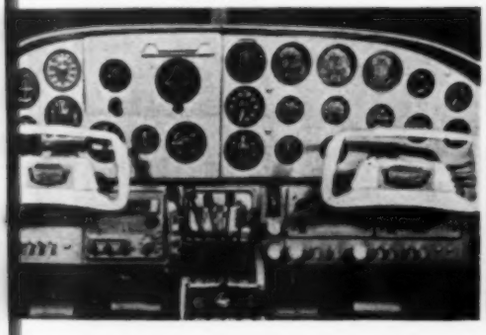

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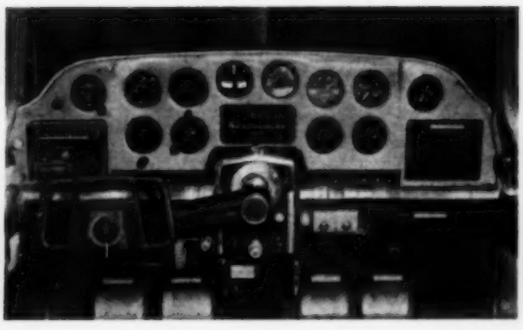

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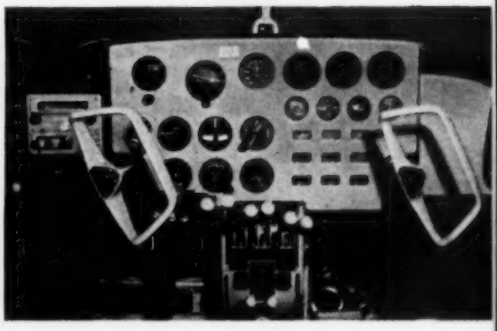
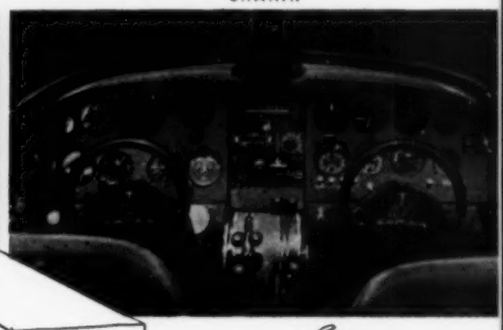


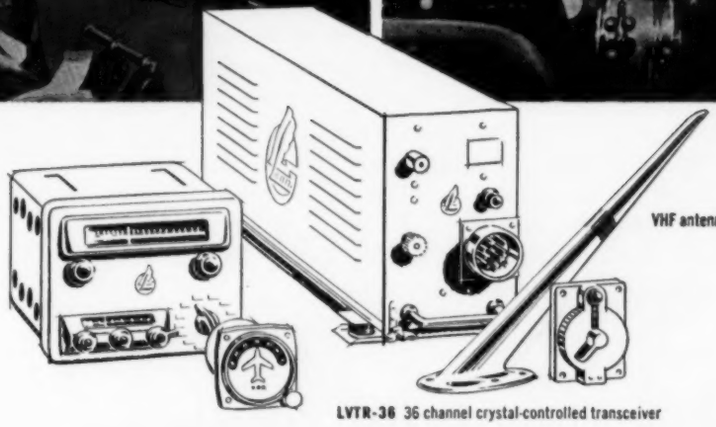
AERO COMMANDER

BELL

CAMAIR



LTRA-6 VHF transceiver, OmniMeter, LF receiver



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Only A Starter For Airports

YOU can thank Senator Mike Monroney of Oklahoma and Representative Oren Harris of Arkansas for spearheading through Congress legislation which restores funds for the Federal airport aid program. At this writing, subject to Senate and House conference, it appears that $63,000,000 in Federal money will be made available as matching funds for airport projects this fiscal year and a like amount for each of the following four years.

While this amount of money falls far short of the Federal government's implied commitments at the time the airport program was scuttled, and while it will fall far short in taking care of the nation's present and future airport needs, the new legislation, if finally passed and signed by the President, represents substantially more than just a moral victory for the protagonists of an intelligent, long-range, national airport program.

Already many of our metropolitan airports are over-taxed from a traffic standpoint. The sound development of local air service and business flying calls for improvement and enlargement of several score airports in medium-size communities. With jet transports only a few years off it is hard to believe that the world's most air travelling nation boasts only seven airports capable of unrestricted jet transport operation.

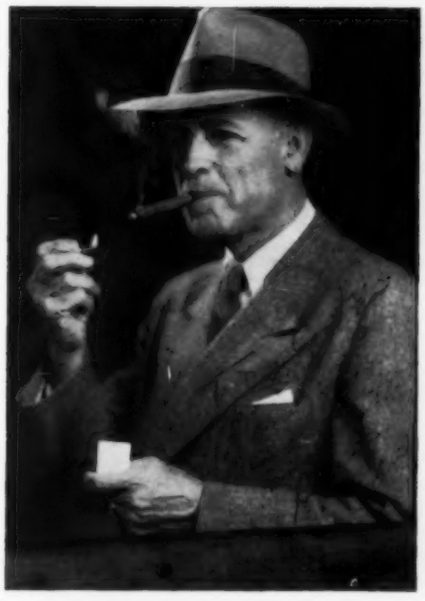
The Air Transport Association estimates that aircraft movements in the next decade will increase by 103 per cent. Passenger business for the same period is conservatively estimated to enjoy an increase of 155 per cent. In the face of such estimates and in the light of past and present air traffic figures in all categories it is difficult to reconcile both Federal and local airport planning and development with the facts. It is not at all inconceivable that aviation will be prematurely forced to level off for lack of adequate facilities on the ground.

So the paltry $63 million provided for in the current bill should be considered only a starter with our sights set considerably higher next year. There is yet time to put intelligent airport planning back on the track.

★ ★ ★

The Strange Case of the Flying Finns

BACK in 1950 two twin brothers, Charles and George Finn, World War II Air Force pilots, decided they would try to purchase an old war-weary C-46 Curtiss Commando that cluttered a schoolyard in Bakersfield, California. As has happened in many similar cases after the amendment to old War Assets Ad-



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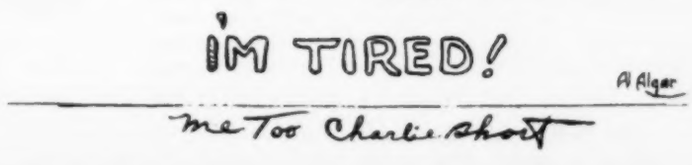

Mr. Davis and a Ryan Navion plane he has flown over most of the United States.

Ask the men with the most experience . . .

ask **Ralph W. Davis,**
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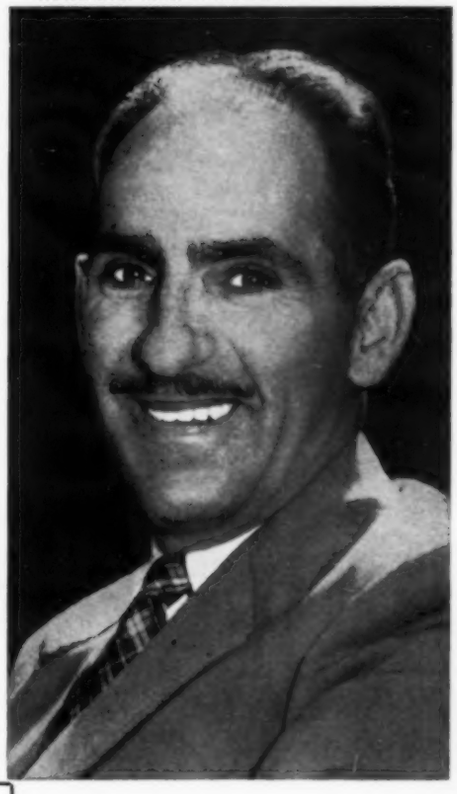

"I've used Gulf Aviation Products exclusively for the last six years," says Mr. Davis. "In my book they're tops . . . especially *Gulf Aviation Oils*. I like Gulf's oils because they do two jobs at the same time—they *protect* my engine while they lubricate.

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ministration Regulation 4, the school advertised the plane for sale. In 1951 the Finn twins took title to the ship with their high bid of $21,000.

In July of 1952 the United States attorney at Los Angeles filed suit against the Finns, the school district and others, challenging the right of the school district to sell and the Finns to buy the war-weary Commando. The suit charged breach of contract and asked $70,000 for the alleged contract breach plus $128,000 for "loss of use" of the aircraft.

Later on in 1952 the government instituted a claim and delivery action against the Finns and the U. S. marshal was ordered to take possession of the plane.

In January of 1953 the U. S. attorney represented that the government had possessed the plane and the Federal judge signed an order giving the government exclusive control, forbidding the Finns to interfere. The Finns considered this invalid and flew the airplane to an emergency strip in the Nevada desert — whereupon the government seized the plane, flew it to Nellis Air Force Base at Las Vegas and impounded it. The C-46 is still there. The Finns are broke and in the Federal prison at Springfield, Missouri.

Here's how it happened: After flying the airplane away the Finns were cited for contempt. But Federal Judge Westover, in March of 1953, dismissed the contempt citations, holding that the marshal had failed to comply with the statute in taking possession of the plane and that "the plane was never in the possession of the government, that is, until these proceedings were filed. It is in the possession of the government now, as I understand, but it was not under these proceedings. . . ."

The Finns, both graduates of the

(Continued on page 38)

NARCO'S NEW 27-CHANNEL VHF transceiver, now on the market, offers 24 crystals for frequencies between 118.1 and 122.8 mc plus 126.7 for INSAC plus two others, all being miniaturized crystals from DME equipment. Whistle tuning is featured. The new transceiver is Narco's Model VC-27 Simplexer.

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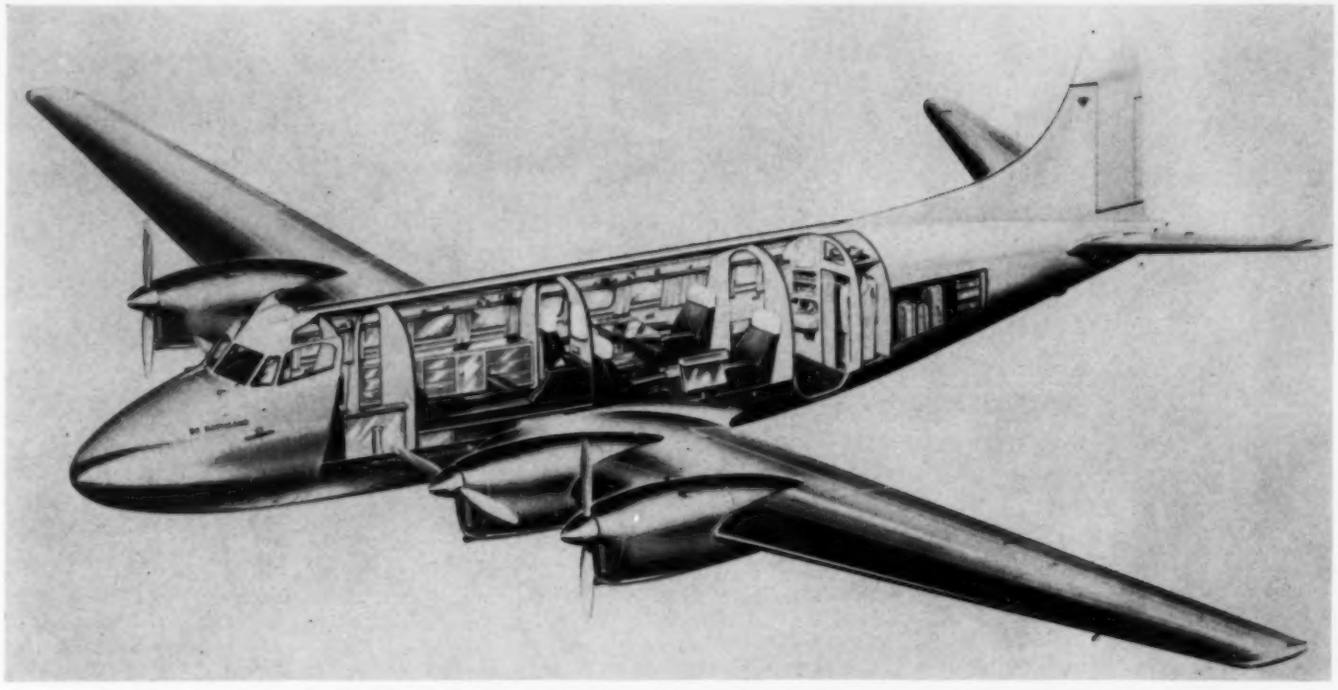
Aircraft Division

HAGERSTOWN, MARYLAND

Other Divisions: American Helicopter Division, Manhattan Beach, Calif.; Engine Division, Farmingdale, N. Y.; Guided Missiles Division, Wyandanch, N. Y.; Kinetics Division, New York, N. Y.; Speed Control Division, St. Augustine, Fla.; Stratos Division, Bay Shore, N. Y.



Cutaway drawing shows how de Havilland Aircraft of England has compartmented the long cabin of its 4-engine Heron for a new executive version. A 14-17-passenger transport in world-wide feeder airline use, the spacious executive version provides for 6-8 passengers plus crew. With four 250-hp. engines and 505-gal. fuel capacity available, it cruises 183 mph. at 8,000 ft. and 65 per cent of power and at a fuel consumption of only 50 gals. hourly. Useful load is about 4,500 lbs. with a 13,000-lb. gross weight.
—(de Havilland Aircraft Drawing.)

Special Executive Version of the Heron

A NEW version of the 4-engine de Havilland Heron, known as the "executive special," is being produced by the British manufacturer and features two compartments in its long cabin. With luxurious new interior furnishings, the executive special Heron has accommodations for six passengers as compared to 8 passengers in the standard executive Heron, the first of which was flown to the United States last September and described at that time in these columns.

In the new version, a forward compartment is a private lounge. In it is a large chaise or sofa, which can seat four persons or serve as a bed. It is over-size, the door to the front radio-galley compartment being offset to provide extra width. Beneath the sofa are large compartments for storage. Opposite the sofa, a cabinet runs the length of the compartment and contains numerous cupboards, boxes and drawers for bottles, glasses, thermos bottles and other needs. Top and face of the cabinet, or enlarged cocktail bar, are panelled in non-slip "Wareite," a rigid material resistant to heat and moisture damage.

The rear passenger compartment contains four large upholstered and reclining chairs, arranged in facing pairs with folding tables between each pair. Each facing pair can be converted into a comfortable couch.

In the rear, a toilet compartment contains a wardrobe and storage, a lavatory, chemical toilet and water supply.

The Heron is powered by four 6-cylinder de Havilland Gipsy Queen 30 engines rated at 250 hp. each. With a 13,000-lb. gross weight and empty weight of 8,408 lbs., it has a useful load of 4,592 lbs. At 8,000 ft. and 65% hp., it cruises 183 mph. at a fuel consumption of about 50 gals. hourly. Standard fuel capacity is 390 U. S. gals. with auxiliary wing tanks adding 115 U. S. gals. for a total of 505 U. S. gals.

The Heron as an airliner, in which version it is widely used by short-haul operators overseas, seats 14 to 17 passengers. The first executive Heron in the United States was recently used to fly Princess Margaret on her tour of the West Indies. This is Heron G-ANOL, and it is now being overhauled by Dallas Aero Service for British Overseas Airways, a subsidiary of which will operate it out of Nassau and presumably along the chain of Bahama Islands used in U. S. rocket test development.

The executive Heron is priced in the U. S. at about $200,000, as compared to $104,000 for the twin-engine de Havilland Dove.

A sales demonstration tour of the United States with the new executive Heron is planned. Its marketing has not yet been aggressively pushed here, where the business transport demand has been for faster twin-engine aircraft. But the Heron's chief selling point of 4-engine dependability offers interesting sales possibilities because loss of power in one engine represents a loss of only 25 per cent of total power as compared with the loss of 50 per cent of power with engine failure in a twin. Designed for heavy airline utilization with low maintenance requirements and for operations from small, off-line airfields, Herons in world-wide feeder operation have amassed an impressive record. ★ ★ ★

Longer cabin, extended 10 inches, and new nacelles, which enclose most of formerly external exhaust augmentor tubes, can be seen in this photo. Engines are new dry-sump, 6-cylinder Lycomings rated at 275 hp. each and feature side-mounted accessories. Fuel capacity is 160 gals. With optional 80-gal. supply in new wing tanks, range exceeds 1,600 miles. New $74,500 price is $5,000 above former price. —(Aero Design Photo by Wayne Entriken.)

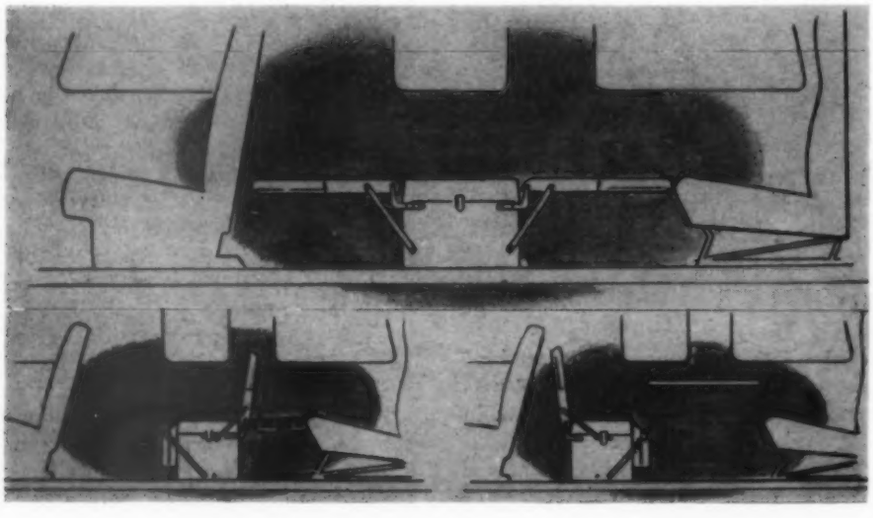
The New Aero Commander 560A

By TOM ASHLEY

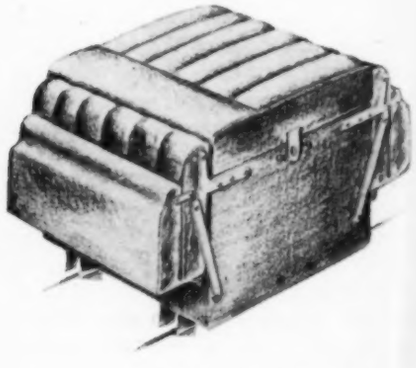
A NEW version of the popular twin-engine, high-wing Aero Commander has gone into production at the Aero Design & Engineering Company factory in Oklahoma City. It is the Model 560A, for which the company emphasizes more cabin roominess and length but which offers additional improvements of greater significance than the customary new-model announcements indicate.

Ten inches have been added to the cabin length and this long-needed cabin "stretch" is effectively used to touch off a chain of related refinements which make the Commander more outstanding than ever in the business-plane category of light twins which it pioneered. The immediate and most obvious impact is greater cabin interior flexibility — chaise lounges and even full-length sleeping "beds" are now an accomplished fact in the light twin as an important Aero Commander "first" in the industry. With the Commander's roomy cabin convertibility, 7-place usefulness is possible in a choice of arrangements. The key to this Aero Commander exclusive is the airplane's high wing and its knee-level floor and ease of entry. This has won customer preference among some 240 Commander owners and users, with President Eisenhower as the latest executive booster.

But there are performance refinements, too, in the new Commander "stretch." Range is increased through more fuel capacity. This has been upped 15 gals. in the standard tankage, which is now 160 gals. as compared to 145 gals. formerly, and the wing has



An ingenious, track-mounted Aero Commander hassock-seat is 18 ins. square, 15.5 ins. high and has extensions which fold out 15.5 ins. for seating or sleeping. Hassock interior is for storage, ice chest or chemical toilet.



Aero Commander cabin spaciousness is shown in these interior views with seats for 7 persons. From rear-seat bulkhead to nose bulkhead, interior measures 127.5 ins. long. Interior length from rear bulkhead to instrument panel is 108.5 ins. and length from rear bulkhead to back of front seat is 75 ins., with 53-in. cabin height and 49-in. width providing 110 cu. ft. of space behind front seats. Behind rear seat is baggage compartment measuring 47 ins. wide, 41 ins. high and 31 ins. long for 32 cu. ft. of useful space. Cabin door measures 43 ins. high by 26 ins. wide. Baggage door is 19.5 ins. wide and 23.5 ins. high. Commander floor is flat for entire length and is only 19 ins. off the ground for knee-high loading.
—(Aero Design Photos by Wayne Entriken.)

provisions for optional internal tanks carrying 80 gals. additional in bladders. These optional tanks are located just outboard of the nacelles and bring total fuel capacity to 240 gals. This extends the airplane's range by more than 50 per cent over that of the preceding Model 560, and offers the Commander owner a healthy cruising range of more than 1,600 miles. Eliminating a fuel stop on a trip has the end effect of getting passengers to their destination in a shorter lapse of time — extended range means faster air transportation just as does higher cruising speed. It also makes instrument flight more practical by providing more endurance to offset weather difficulties and traffic delays.

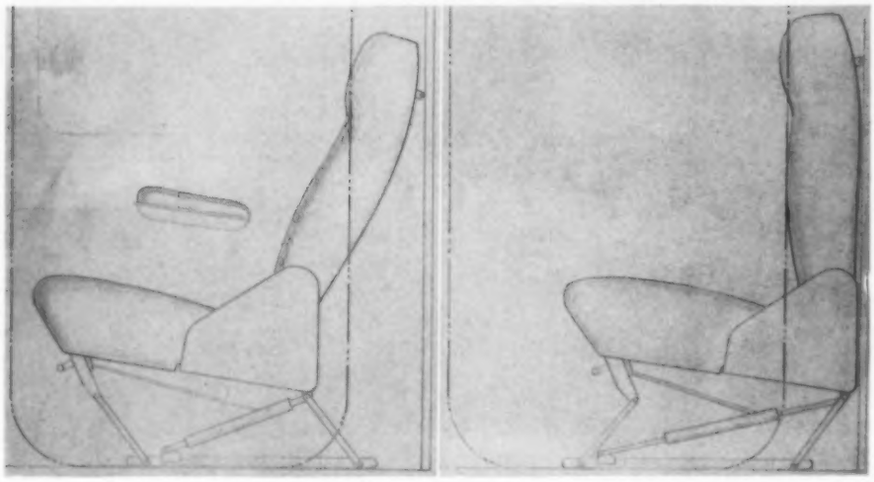
The new Model 560A offers a slight power increase obtained through the use of carburetors with large venturi. The effect is to increase each of the 6-cylinder Lycomings' take-off rating from 270 hp. to 275 hp.

The engines are of the dry sump type. This enables Aero Design to furnish a larger oil supply for fullest utilization of the airplane's extended-range possibilities. Preceding Commanders have used wet-sump engines.

The nacelles are new and larger and incorporate several significant improvements. The exhaust augmentor tubes are now almost completely enclosed in the nacelle, whereas they were formerly almost completely external. In addition, the tubes are now fitted flush against the firewall in the engine compartment, where exhaust enters the tubes. They formerly extended inside the compartment from the firewall and this extension created some turbulence in the cooling air. The flush-fitted entry eliminates the turbulence and reduces drag, the new installation being 15 per cent more efficient than the old.

The new nacelles are larger to accommodate the side-mounted accessories which are a feature of the new Lycoming GO-480-D1A engines. Thus accessories are more accessible for maintenance. Their removal from the rear of the engine provides a sizeable

Aero Commander cabin arrangements as sketched by factory artist depict use of a table, which is stowed in baggage compartment, and use of hassocks for sleeping. Three-place rear seat is 48.5 ins. wide, cushion is 19 ins. deep and seat back is 26 ins. high. Front of seat is 16 ins. high, rear is 12 ins. high. Individual pilot and passenger seats are 15.5 ins. wide, 13.5 ins. deep and have 19.5-in. backs. They stand 15.5 ins. high and are all on tracks. They also have reclining backs.



More comfort and more door space are provided by a new Aero Commander rear seat, which hinges back for cabin loading and forward for comfort with 8 ins. of travel. Door opening is 26 ins. wide and 43 ins. high.

area of unused space behind the engine and in front of the firewall, obviously for future equipment.

There are other significant changes in the nacelle areas. The Model 560A is equipped with new-type engine mounts. Whereas the former mount was fabricated of sheet metal and extrusions, the new one is of plate stock and extrusions and features dyna-focal shock-mounting into which the engine is cradled. Engine isolation is said to be improved at least 100 per cent, as the dyna-focal mounts provide for straight-path loads for absorption of power impulses within the engine, eliminating their transfer into the airframe.

The entire nacelle is 3 inches wider and extends 3.5 inches farther forward. Each nacelle has also been moved outboard from the cabin by 2.5 inches, thus moving propeller tips farther from the cabin to reduce prop-tip noise.

This has also resulted in a 5-inch widening of the wheel tread, as each main gear strut is moved 2.5 ins. outboard with the nacelles. This is a new main landing gear, designed for the Aero Commander by Electrol. It is mounted on a re-designed and simplified structure and the main struts have a 4-degree forward slope in the down position. The new position allows the nose wheel to be lifted off or held off at slower speeds than formerly. It also makes for smoother touchdown on landing.

Three-blade propellers and a dual vacuum system have been incorporated as standard equipment in the new Model 560A. These add to the empty weight of the airplane, as do other refinements. The total gain is 245 lbs., bringing empty weight to 4,150 lbs. At 6,000 lbs. gross weight, useful load is 1,855 lbs.

With the additional equipment and other improvements, the price has been raised $5,000 and is now $74,500. Since the 3-blade propellers and the dual vacuum system cost $3,180 additional for the previous model, this leaves less than $2,000 of the price increase to be accounted for by the other improvements.

Introduction of the new Model 560A comes at a time when Aero Commanders are at a peak in sales volume. The 560A represents the third step in the development of the original design and fulfills a company policy, expressed by Rufe Amis, president, to pursue a continuing research and development program of improving the Aero Commander.

"We are in business only because our customers had faith and confidence in our ability and we intend to continue our progressive developments and thereby merit the future support of our customers," Amis said. "We are determined to incorporate as many needed and worthwhile developments as possible so that our airplanes will maintain their position of leadership. Our customers expect progress and we intend to do everything possible and practical in offering them a product which represents genuine progress."

Amis said plans are under way to increase production not only to meet the increase already achieved in sales volume but to deliver a new Air Force order for 15 Commanders. The first of these was recently assigned to the White House for President Eisenhower's personal use. It is believed the others will be assigned to Washington for staff transportation. Newspapers, television, radio and magazines have prominently publicized the President's use of the Commander and this has stimulated widespread public acceptance of light twin-engine airplanes for their safety and usefulness.

Aero Design future production plans include a new and larger factory across Tulakes Airport from its present facility. Details have yet to be finalized but steps were taken some time ago to acquire the property and develop new and larger facilities on it. A research and development division was established during the past year at Norman, Oklahoma, directed by Ted Smith, vice president in charge of engineering.

A total of 150 Model 520's had been produced from January, 1950, when the company began deliveries, until June, 1954, when the Model 560 went into production. Since then, 80 Model 560's have been delivered.

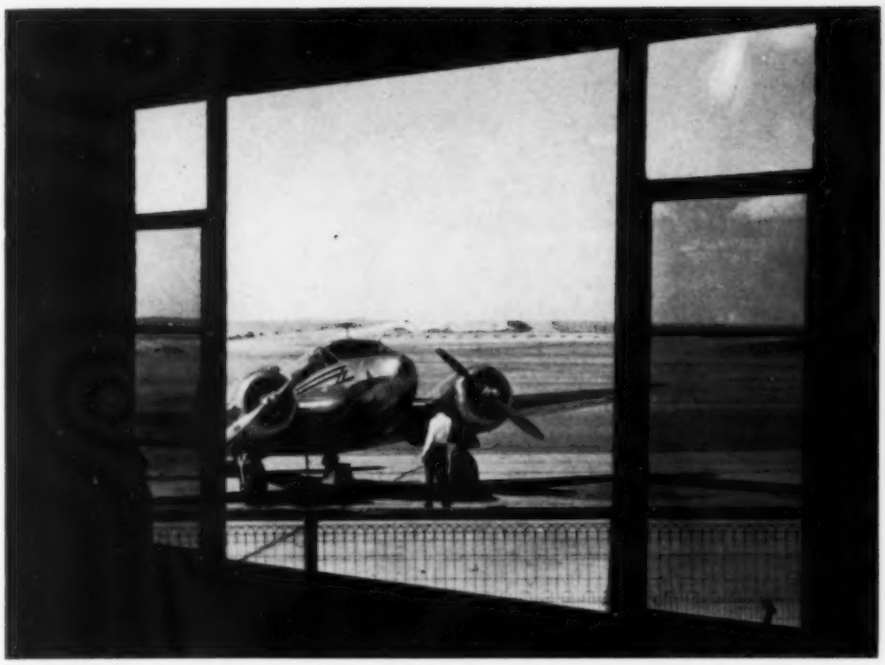
★ ★ ★

Facts and Figures on 3 Aero Commander Models

Here is how the new Aero Commander Model 560A compares with preceding Models 520 and 560 in comparative figures taken from factory data:

	Model 520	Model 560	Model 560A
Horsepower	520	540	550
Gross Wt., lbs.	5,500	6,000	6,000
Empty Wt., lbs.	3,600	3,900	4,145
Useful Ld., lbs.	1,900	2,100	1,855
Max. Spd., mph.	211	206	211
Cr. Spd. (70% at 10,000 ft.)	197	197	197
Rate of Climb, fpm.	1,800	1,400	1,400
SE R/C, fpm.	400	340	340
Svc. Clng., ft.	22,000	21,900	21,900
SE Svc. Clng., ft.	10,000	8,400	8,400
TO Over 50 Ft., ft.	950	1,100	1,100
Land Over 50 Ft., ft.	900	1,050	1,050
Stall Spd. (Full flaps, gear down, power on), mph.	40	45	45
Stall Spd. (Full flaps, gear down, power off), mph.	60	59	62
Stall Spd. (Clean, power off), mph.	68	69	69
Fuel Cap., gals.	145	145	160
*Range (10,000 ft., 30-min. res.), mi.	1,150	1,050	1,050
Span, ft.	44	44	44
Length, ft./ins.	34/2.5	34/2.5	35/5
Height, ft./ins.	14/4.5	14/9	14/9

*Range quoted is at 60% hp. for 520 and 55% hp. for 560 and 560A.



H. L. Nichols (right) travels 500 hrs. a year in the Beech D18S above, guiding expansion of his firm at a rate of $20,000,000 annually. He is chairman of Southwestern Public Service Company. Below, he and his pilot, Fred K. Dick, are loading the Beech with a wide screen, projectors and a company film which he uses for private showings in major cities in obtaining equity financing for his firm's continuous expansion.
—(FLIGHT MAGAZINE Photos; Lower by Tom W. Collins.)

Flying for Business

ONE of the fastest growing electric public service companies in the United States has effectively used a Beech D18S Twin to keep ahead of the growing needs of the large area it serves. It is the Southwestern Public Service Company and its chief executive, Herbert L. Nichols, frequently credits his airplane for making possible much of the firm's extensive expansion through a prosperous territory stretching nearly 400 miles from Carlsbad, New Mexico, through the Texas and Oklahoma Panhandle into southern Kansas.

"It takes 500 hours of flying annually in our Beech plus frequent use of the airlines for us to keep pace with growth in our territory," he explained.

How he personally keeps the company airplane busy furnishes an interesting example of aircraft usefulness in the modern business world. Scattered generating plants have been enlarged and new ones constructed, with expansion costs amounting to

(Continued on page 47)

Here's the Fairchild M-225 four-jet business transport as it would appear at the airport. Designed to meet high-performance needs of business-plane users with 4,000 lbs. of thrust, it cruises 560 mph. and has a range of about 1,450 miles. Insignia is Fairchild's famous Pegasus emblem.

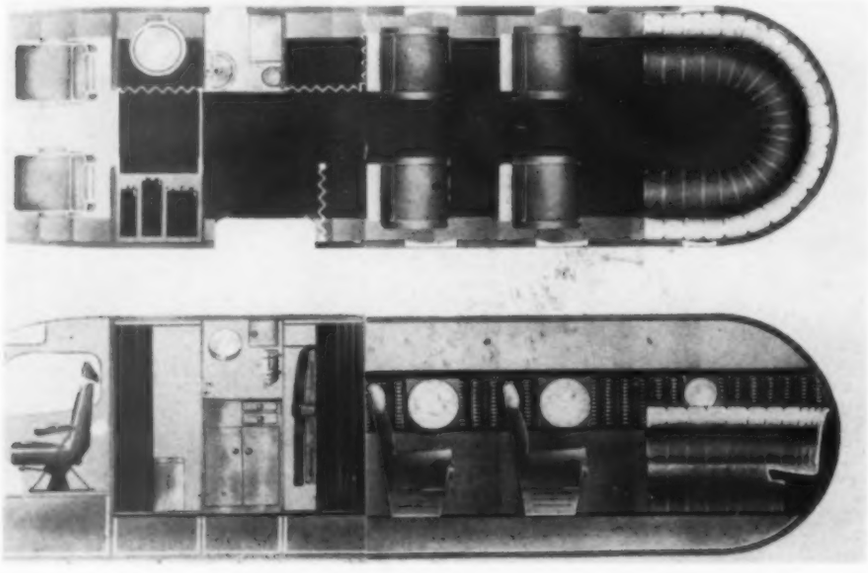
Fairchild Jet Business Transport

A SMALL, very fast jet transport for business flying has been designed by Fairchild Engine and Airplane Corporation with a 560-mph. cruising speed, a range of about 1,450 miles, and a cruising altitude above 30,000 ft.

It is the Fairchild M-225 powered by four Fairchild jet engines rated at 1,000 lbs. of thrust each.

The M-225 will carry 7 passengers and a crew of 2 in a pressurized cabin having design features offering much appeal to executive transport pilots and users. The cabin door, for example, is ahead of the wing leading edge between crew and passengers and opens into a compartment for baggage, galley, lavatory and equipment. The cabin floor is low to the ground.

With gross weight of 17,695 lbs. and an empty weight of 8,870 lbs.,



Interior layout of the Fairchild M-225 shows an ideal arrangement in the pressurized cabin. Entry compartment separates crew and passengers and facilitates loading. Lavatory, galley, baggage and equipment are carried there. Four chairs and circular lounge accommodate 7 persons.

useful load is 8,825 lbs. Span of the wing, which has 35 degrees of sweepback, is 35 ft. 4 ins. Fuselage length is 50 ft. 10 ins. Top of the vertical fin is 13 ft. 3 ins. off the ground.

The fast M-225 will have a 3,410-ft. ground run on take-off and will need 5,720 ft. to clear a 50-ft. obstacle on take-off. It will land in 1,222 ft. over a 50-ft. obstacle with a 782-ft. ground run.

Phenomenal rate of climb is claimed for the design, being 5,160 ft. per min. at sea level on 4 engines, 2,920 fpm. on 3 engines, and 1,020 fpm. on 2 engines.

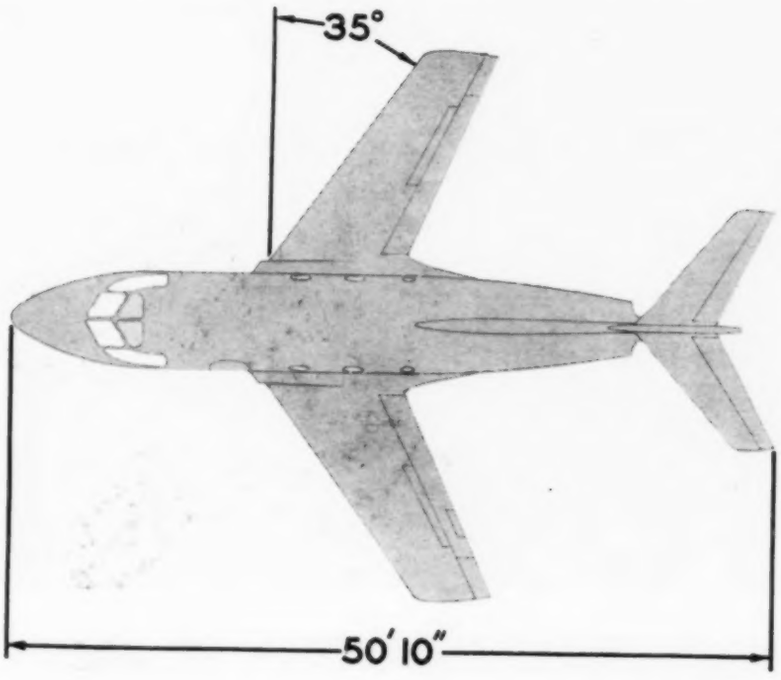
Its 560-mph. cruising speed is at an altitude of 39,600 ft. Range is said to be 1,280 nautical miles, which is about 1,450 statute miles.

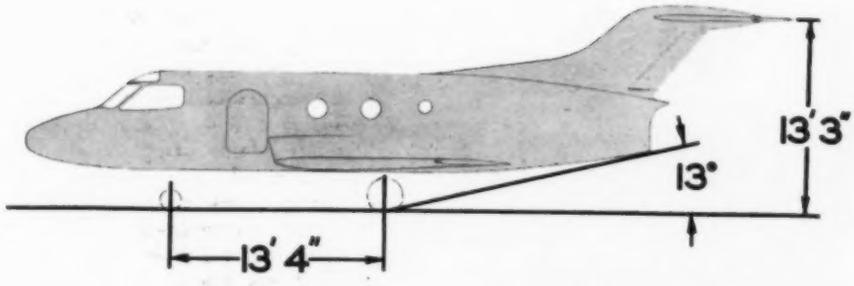
Fairchild says the M-225 was designed specifically to meet today's industrial executive transport requirements and it will also meet military needs for speedy transport and transitional training uses.

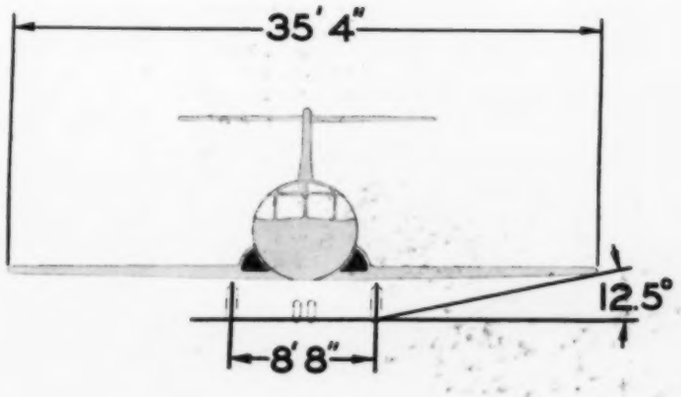
"There is a recognized need for a light jet transport of this category and those who have seen the design have expressed considerable interest and enthusiasm for this project," said W. L. Landers, general manager of Fairchild's aircraft division at Hagerstown, Maryland. Landers said engineering plans for the M-225 and other new projects now in the advanced planning stage have been studied by "interested industrial fleet operators and by military agencies."

Installation of the four small jet engines was said to be "unique" but no details were announced. The low wing has a single air intake at each wing-root and the engines are mounted in the fuselage behind the cabin.

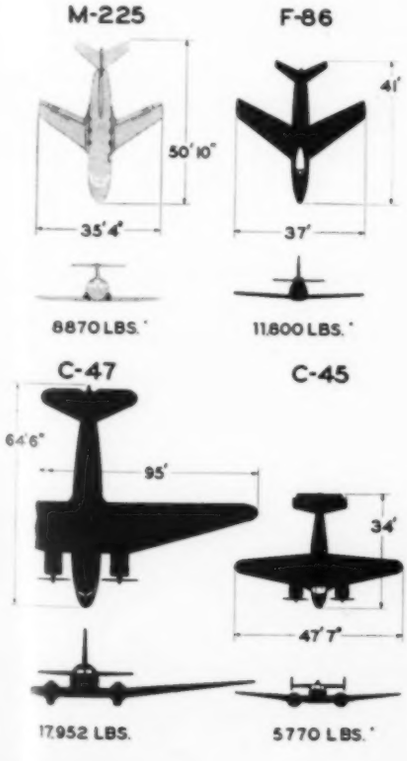
In addition to the M-225 commercial jet design, Fairchild's aircraft division currently holds three major Defense Department research contracts. These call for design studies (1) for optimum configuration of a short-take-off-and-landing Navy transport, (2) for a high-performance Navy observation aircraft and (3) for a new Air Force utility command aircraft. ★ ★ ★

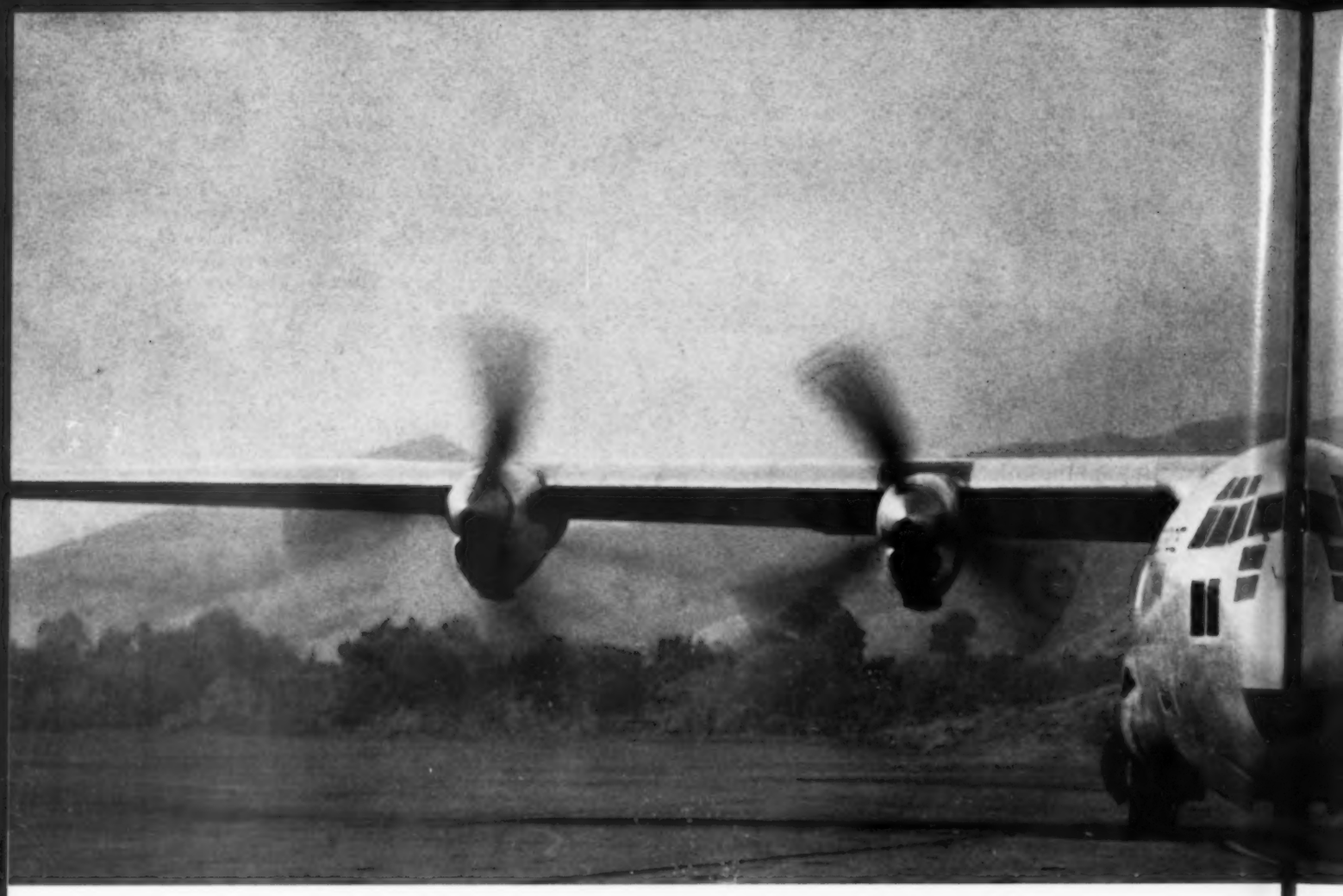






Three-view drawing with dimensions and sketches below comparing size of M-225 with other aircraft show it to be compact design. Weights below are all empty weight figures.





MISSION: TACTICAL AIR MOBILITY. Mobility of men and materiel is a vital problem in the new atomic era. So the Air Force needs a high-speed, low-slung combat cargo plane that can use even short, improvised runways. The new C-130 Hercules with turbo-prop power (Allison T-56 engines) will do this. Now in production at Lockheed's Georgia Division, Marietta, Ga.

A Pentagon Secret

If you were in the vicinity of Alamogordo, Inyokern, Dayton, Muroc Dry Lake or Patuxent River, you would hear new sounds and see strange shapes in the skies. These and other military research centers are constantly testing the new flight forms developed jointly by industry and the military—admirals, generals and thousands of officers and enlisted men.

The unique talent of our military executives to mobilize science and industry is the Pentagon secret. In this fast-moving age, our defense needs are ever-changing. This requires new weapons, new aircraft, and whole new concepts of defense. The job of planning and developing these is now the biggest business in the world.

Each new defense device is designed to perform a special and difficult mission. And each originally presented our military executives with a major problem in planning, designing, development and production. Typical of today's defense problems and the machines designed to solve them are the products illustrated on these two pages.

IF YOU'RE A YOUNG MAN, 17 TO 28, INVESTIGATE MILITARY AVIATION AS A CAREER

MISSION: POWER RESEARCH. To prove how even advanced turbo-prop engines could be used on existing air frames designed for piston power, the Navy and Air Force selected Super Constellations (below). Result: these Super Constellations are the world's fastest propeller-driven airplanes, and are now flying for our military. Lockheed is leading the industry in turbo-prop power. Look for the new Lockheed Electra commercial transport with this advanced power. Already ordered in quantity by American Airlines, this advanced airliner promises speeds up to 100 mph faster than commercial transports now in service, and amazing new operating economies for airlines. For travelers throughout the world, the Electra will provide quicker schedules, quieter comfort. Lockheed's vast experience in turbo-prop aircraft will make possible record production schedules.

MISSION: MISSILE SUPREMACY. Ultimate goal of the research and development at Lockheed's Missile Systems Division is a completely reliable, broadly versatile array of guided missiles. Lockheed's MSD has more than 2,000 topflight scientists, physicists, nuclear physicists, engineers and technicians covering virtually every field of science at Van Nuys, Calif., Alamogordo, N. M., and Patrick Air Force Base, Fla.

MISSION: INTERCEPTION. (Right) This condensation trail is a phenomenon caused by great speed at high altitude—symbol of the Air Force's new F-104 Fighter, the Lockheed supersonic interceptor too secret to photograph.

Lockheed

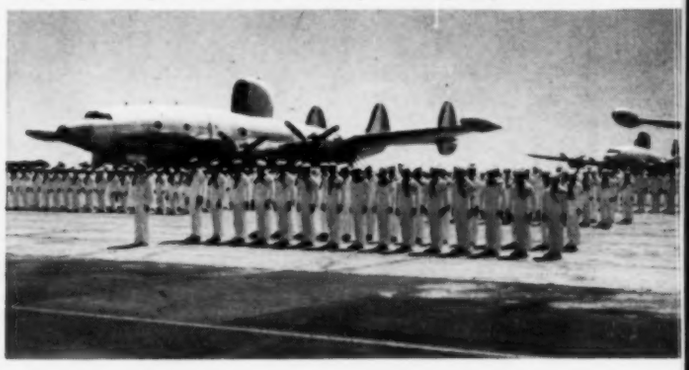
AIRCRAFT CORPORATION

California Division, Burbank, Calif.
Georgia Division, Marietta, Ga.
Missile Systems Division, Van Nuys, Calif.
Lockheed Air Terminal, Burbank
Lockheed Aircraft Service, Burbank

LOOK TO LOCKHEED FOR LEADERSHIP

MISSION: JET TRAINING. Aircraft carrier jet fighters require highly skilled pilots and, to train them, the U. S. Navy needed the world's safest jet trainer. The new T2V-1, the Navy's first carrier jet trainer (shown below), is a product of close Navy-Lockheed cooperation. Flying about 600 mph, it can land under 100. Better visibility and a raised empennage for improved control are other new features.

MISSION: EARLY ENEMY DETECTION. Like climbing a mountain for a better view, the Navy and Air Force "go upstairs" with radar stations on Super Constellations—long-range planes capable of carrying *tons* of 360° radar. Result: more hours of earlier warning. Below, Navy crews at Pearl Harbor pass inspection near their Early Warning Super Constellations.



MISSION: COASTAL PROTECTION. No other nation has so much coastline to protect from submarine or air attack. The Navy and Lockheed have continuously developed Neptune Patrol Bombers (P2V) for this mission. In addition to high speed and long range, this plane (below) typifies Lockheed's leadership in the application of electronics to aircraft.

First of Bell Aircraft's new executive helicopters (above) has been delivered to the president of Colombia in South America. More Bells are being used in crop dusting (right).

Commercial Copter Boom

AN upsurge in commercial helicopter sales has been reported by Bell Aircraft Corporation, with production already sold for the next six months at Bell's helicopter factory between Ft. Worth and Dallas. Commercial sales at midyear were 30 per cent above those for the same period last year and Commercial Sales Manager J. Cully Weadock reports 18 new commercial helicopter operations have already been established this year in the United States. These operators now total 75 in number, many of them operating fleets of Bells.

Not only are new users acquiring helicopters, but Bell reports old customers are adding to their fleets. Many of the sales are to companies and corporations which have formerly leased or chartered helicopters but are now acquiring their own machines.

More than 1,500 Bell Model 47 helicopters have been sold and are operating in 40 countries of the world. The factory has 26 service representatives providing world-wide factory service for the operators. They report back valuable operational and maintenance information for study and refinement by Bell engineers. These service representatives report that Bell helicopters

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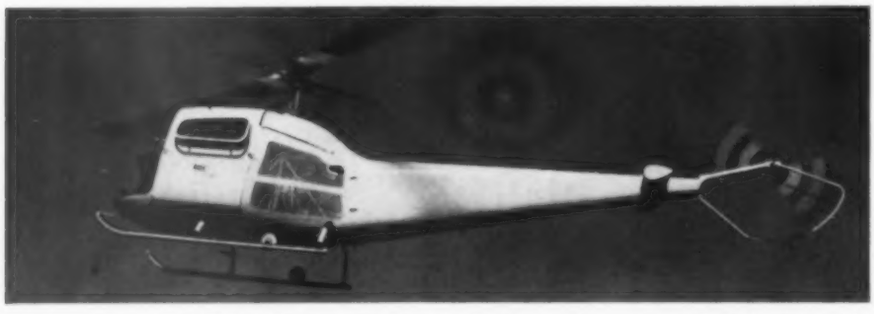
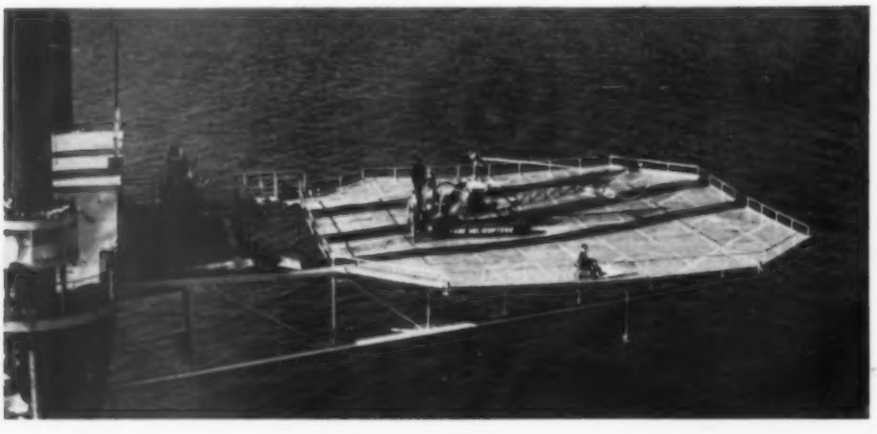
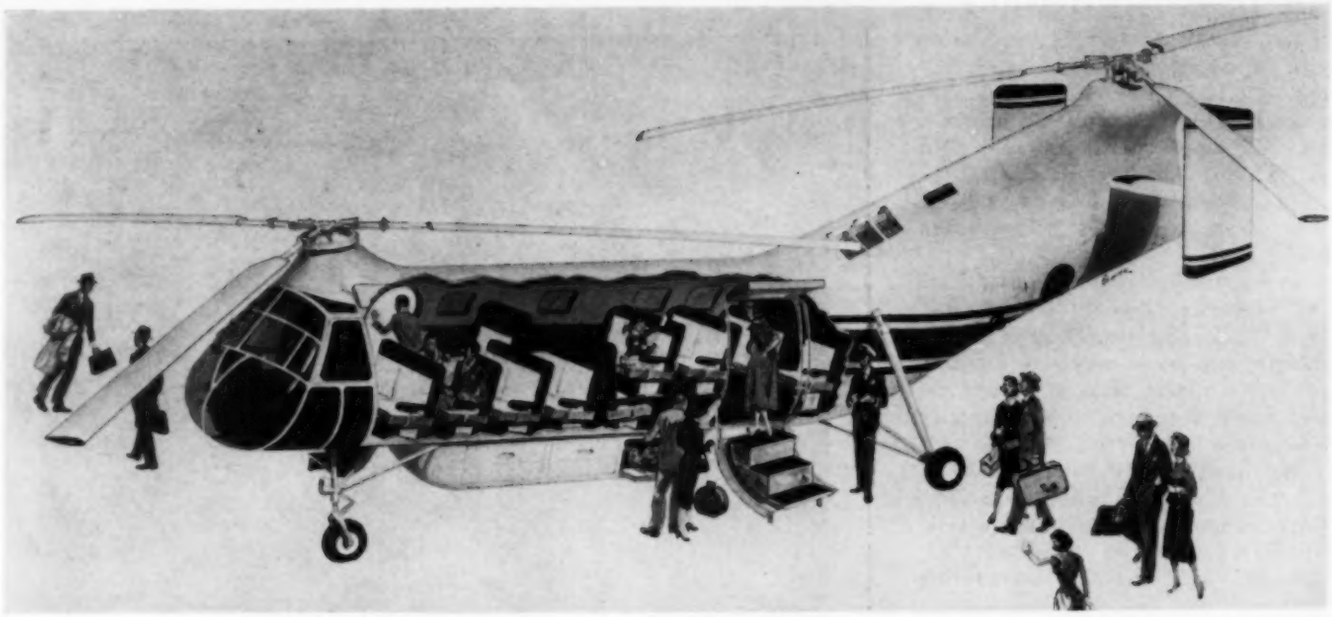


A new 4-place Bell (above) is going into production with commercial deliveries early next year. The heliport suspended above water below extends from the Glasscock Drilling Company offshore rig near Corpus Christi, Texas. Many Bells are used in power line patrol (right).





Seating for as many as 19 passengers will be provided in the commercial PH-42 version of the Piasecki H-21. For minimum-time passenger handling, cabin has forward and rear doors, both with integral steps, and mail and baggage are carried in belly compartment. A single-engine helicopter grossing 13,300 lbs. with a 4,570-lb. useful load, the Piasecki has counter-rotating tandem rotors. Its 1,425-hp. Wright R-1820-103 engine is mounted behind cabin and between main landing gear.
—(Piasecki Helicopter Drawing.)

Commercial Piasecki Transport

THE first twin-rotor helicopter transport for airline and industrial use is being certificated for Civil Aeronautics Administration airworthiness by Piasecki Helicopter Corporation at Morton, Pennsylvania. The rotary-wing transport is a commercial version of the Piasecki H-21 "Work Horse," already being operated by the U. S. Air Force and Army and the Royal Canadian Air Force.

Initial deliveries are scheduled for 1956 and the commercial version will be known as the Piasecki PH-42. It will seat up to 19 passengers and will be capable of carrying mail and baggage externally in an 80-cu. ft. detachable "helipack" beneath the cabin.

The PH-42 is powered by a single engine, which is a 9-cylinder Wright Cyclone R-1820-103 rated at 1,425 hp. for take-off. This engine is mounted in a normal (airplane) attitude and is located in the fuselage just behind the cabin. Engine torque is transmitted to the tandem rotors through a clutch assembly to a gear box located amidship and, thence, by means of drive shafting, to reduction gear boxes located below each rotor hub. All flight controls are hydraulically operated.

Its two 3-blade, fully articulated, counter-rotating rotors are 44 ft. in diameter.

The helicopter has a 300-gal. fuel tank which is located in the fuselage behind the passenger cabin but separated from the engine compartment by a stainless steel firewall.

Operating details include 98-109-

Military use of the Piasecki H-21 helicopter as a transport was dramatized recently when 12 of the tandem-rotor copters were used in the first civil defense mass evacuation by helicopter. A hundred top government officials were coptered from Washington offices. At right is Air Force Secretary H. E. Talbott leaving the Pentagon with his staff to board an Air Force H-21B.

mph. cruising speed, 131-mph. maximum speed, 1,080-fpm. maximum rate of climb, 9,450-ft. service ceiling, 69-gph. fuel consumption, 338-mi. range, and a useful load of 4,570 lbs. with a 13,300-lb. gross weight and 8,730-lb. empty weight.

The passenger cabin is 20 ft. long, 5 ft. 8 ins. wide and 5 ft. 10 ins. high.

In announcing its steps to certificate the transport, Piasecki officials said New York Airways, Sabena Belgian Airlines and other operators are currently evaluating it as a possible replacement for their lower-capacity helicopters. New York Airways personnel have already flown the H-21 and this helicopter airline's president, Robert Cummings, has stated that it would offer several important advantages for inter-city commuting services.

One of the H-21's outstanding advantages is that passengers may be seated wherever they desire, Piasecki explaining that no special consideration is required in regard to aircraft balance. This is made possible by the configuration, in which the H-21 carries its load between its rotors.

The cabin, which is relatively large for helicopters, has two doors for quick loading and unloading. One is forward on the right and the other is at the rear on the left. Boarding passengers may use one door while deplaning passengers use the other.

Safe loading is assured by the height of its rotor blades, which clear the ground by 14 ft. when idling. Thus personnel may walk about in complete safety while it is turning its rotors on the ground.

For industrial flying, it offers several uses which give it unique advantages over fixed-wing aircraft. These novel uses, demonstrated in military operations, include operations as a "flying crane." A sling on the underside may be attached to a bulky load which is too large in dimensions for the cabin. The load is flown in this sling to be deposited at its destination.

Bundles of pipe or timbers, a motor-generator set or even a small truck can thus be loaded in the sling while the H-21 hovers overhead and then lifted into the air and flown away.

It has also proved useful as a flying tug, having a pulling force of 6,000 to 8,000 lbs. in Navy demonstrations in which the H-21 has towed mine-sweeping equipment through water. It has also been used to pull free military trucks mired in sand. Industrial uses could include the towing of bogged-down equipment in swamps, heavy loads over ice or snow and the towing of barges. ★ ★ ★

United Air Lines Convair 340 cockpit shows RCA radar scope in center of instrument panel.

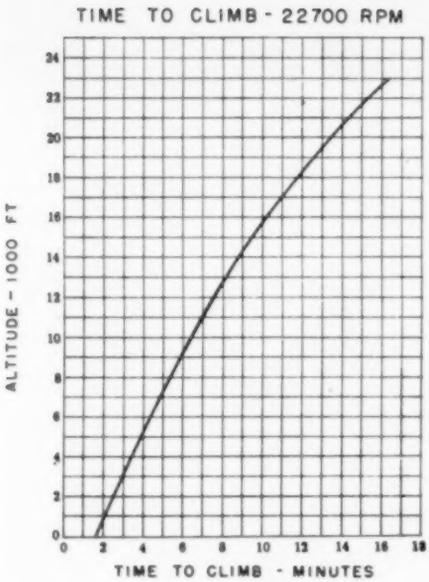
Radar for United Air Lines Fleet

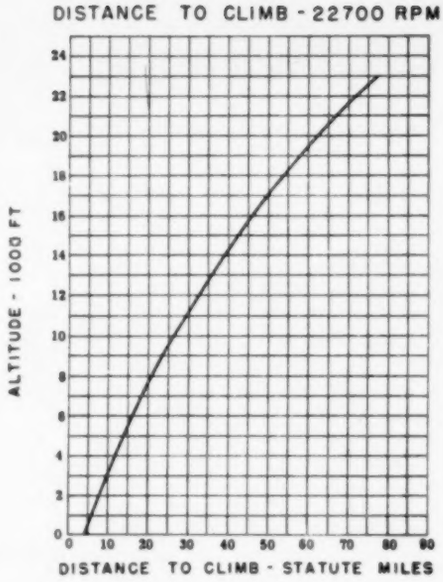
UNITED Air Lines is the world's first air carrier to adopt airborne radar as standard equipment for all of its airplanes. It is installing the first units at its San Francisco maintenance base, which will equip all UAL transports except DC-6B's, these to be equipped at Denver.

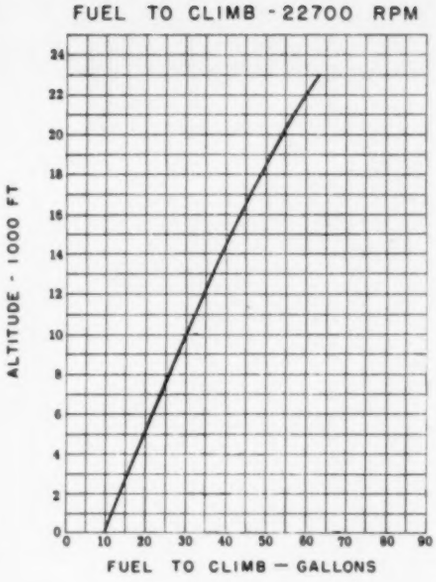
For its planes, United ordered 200 C-band RCA AVQ-10 radars costing $2,500,000. It will spend $1,500,000 on the installations.

The C-band (5.5 cm) radar was developed expressly for airline operations. On a scope in the cockpit, it pictures storm cell conditions as far as 150 miles ahead and can also be used to map surface features such as lakes and mountains.

Big RCA radar antenna is in 28.5-in. Convair nose extension. Antenna scans 240 degrees at front and side of nose. Horizontal tilt is cockpit controlled.



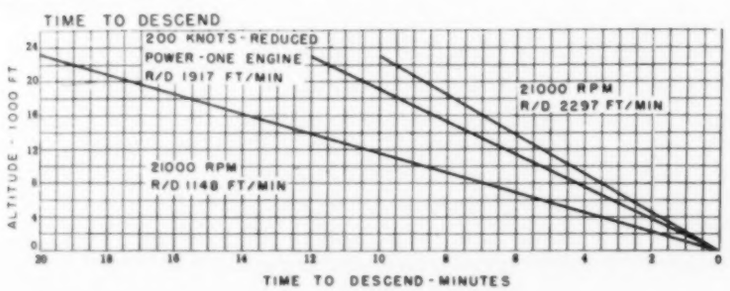


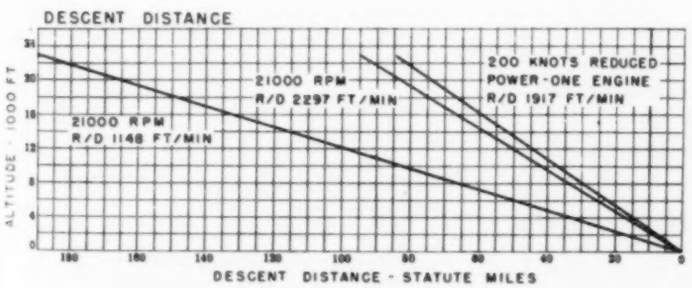


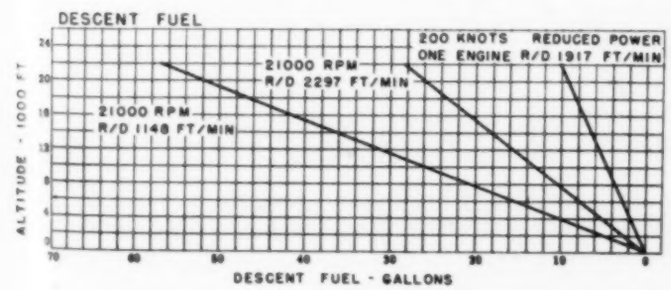
Twin-Jet M-S 760 Performance

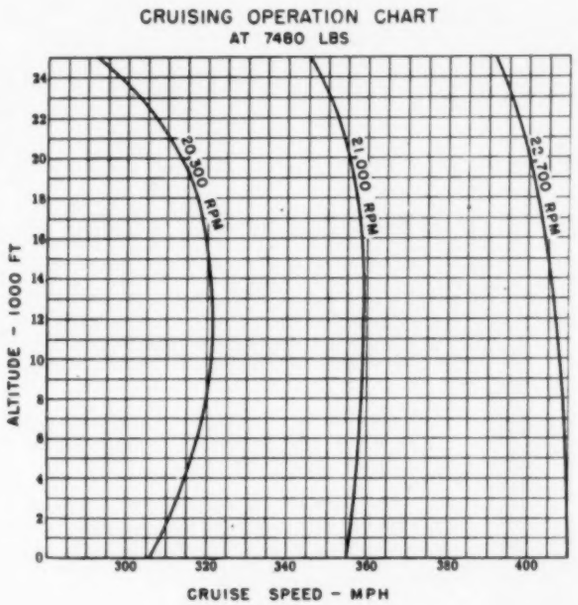
These Beech charts picture performance of the M-S 760 twin-jet business plane now being demonstrated by Beech Aircraft Corporation. The Marbore 2 jet engines are rated at 880 lbs. of maximum thrust at 22,700 rpm. and 700 lbs. normal thrust at 21,000 rpm. Rate of climb at sea level and at 22,700 rpm. is 2,260 fpm. Fuel capacity is 360 gals. with tip-tanks. Gross weight is 7,480 lbs. Absolute ceiling at maximum rpm. is 36,000 ft. and absolute single-engine ceiling at maximum rpm. is 9,000 ft. Maximum endurance is 3.3 hrs. at 23,000 ft. using 20,000 rpm. and at a cruising speed of 294 mph. This gives a range of 970 miles, without reserve.

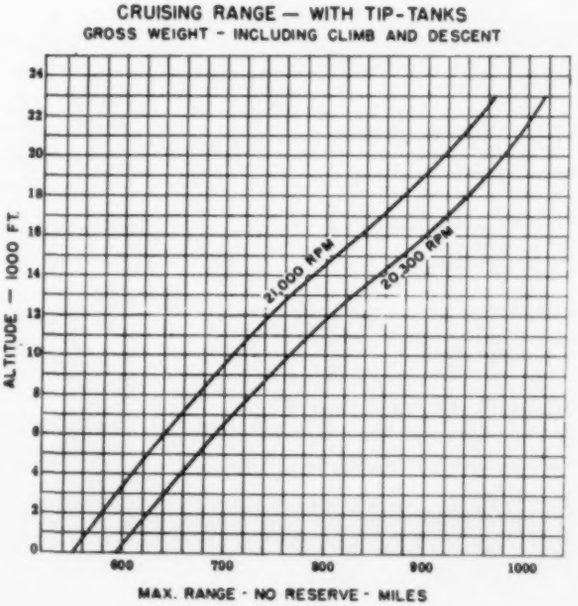
As of mid-July, the M-S 760 demonstrator had made some 300 hops in the U. S. It was in Tulsa, Oklahoma City and Wichita July 1-Aug. 5 and was to be demonstrated on the following schedule during August: Dallas, Aug. 8-9; Houston, Aug. 10-11; San Antonio, Aug. 12-13; Denver, Aug. 15-16; Oakland, Aug. 18-19; Van Nuys, Aug. 21-24; Albuquerque, Aug. 27 and Wichita on Aug. 28. ★ ★ ★


TIME TO DESCEND
200 KNOTS - REDUCED POWER - ONE ENGINE R/D 1917 FT/MIN
21000 RPM R/D 2297 FT/MIN
21000 RPM R/D 1148 FT/MIN
ALTITUDE - 1000 FT
TIME TO DESCEND - MINUTES


DESCENT DISTANCE
21000 RPM R/D 2297 FT/MIN
200 KNOTS REDUCED POWER - ONE ENGINE R/D 1917 FT/MIN
21000 RPM R/D 1148 FT/MIN
ALTITUDE - 1000 FT
DESCENT DISTANCE - STATUTE MILES


DESCENT FUEL
200 KNOTS REDUCED POWER ONE ENGINE R/D 1917 FT/MIN
21000 RPM R/D 2297 FT/MIN
21000 RPM R/D 1148 FT/MIN
ALTITUDE - 1000 FT
DESCENT FUEL - GALLONS




CRUISING RANGE — WITH TIP-TANKS
GROSS WEIGHT - INCLUDING CLIMB AND DESCENT
21,000 RPM
20,300 RPM
ALTITUDE — 1000 FT.
MAX. RANGE - NO RESERVE - MILES

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The Beechcraft owner can well take pride in the fact that he owns and flies one of the finest products of the Aviation Industry. He also has at his disposal the finest national service organization that is qualified by the Beechcraft factory to maintain all Beechcraft models in factory new condition.

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San Antonio, Texas

ANDERSON AIR ACTIVITIES
General Mitchell Field, Milwaukee, Wisc.
Truax Field, Madison, Wisc.

ATLANTIC AVIATON CORP.
Teterboro Airport, (25 minutes from Times Square)
Teterboro, New Jersey
Logan Airport, East Boston, Mass.

ATLANTIC AVIATION SERVICE
New Castle County Airport, Wilmington, Delaware

BUTLER CO., AVIATION DIVISION
Municipal Airport, Chicago, Ill.

CURREY SANDERS AIRCRAFT CO., INC.
Downtown Municipal Airport, Shreveport, La.

CUTTER-CARR FLYING SERVICE, INC.
West Mesa Airport, Albuquerque, New Mexico

GRAY AIRCRAFT SVC. CO., INC.
D. A. Cody, Service Mgr.
Love Field, Dallas, Texas

ELLIOTT FLYING SERVICE
Municipal Airport, Davenport, Iowa

ROD MORE AVIATION SERVICES
Cuddihy Field, P. O. Box 556,
Corpus Christi, Texas

ROSCOE TURNER AERONAUTICAL CORP.
Municipal Airport, Indianapolis, Ind.

J. D. REED CO., INC.
Municipal Airport, Houston, Texas

TOPEKA AIRCRAFT SALES & SERVICE
Municipal Airport, Topeka, Kansas

TRADEWIND AIRPORT CORP.
Tradewind Airport, Amarillo, Texas

TULSAIR DISTRIBUTORS, INC.
Hangar 8, Municipal Airport, Tulsa, Oklahoma

WINGS, INCORPORATED
Wings Field, Ambler, Pennsylvania
Philadelphia International Airport, Philadelphia, Pa.

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Over four thousand Beechcraft Bonanzas are providing a new and better method of spanning the barriers of time and distance for forward-looking companies.

The 1955 Beechcraft Model F35 Bonanza, with its high payload, high speed, low-operating cost, and rugged dependability, enables aggressive business leaders to meet the challenge of expanding markets . . . multiplies the opportunities for personal sales and service.

A cruising speed of 184 miles per hour and a range up to 1180 miles prove the Bonanza the leader in the four-place field. It pays dividends . . . brings more time for business – more time for pleasure, too! The World Is Small When You Fly A BEECHCRAFT.

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Beech Aircraft Corporation, Wichita, Kansas, U. S. A.

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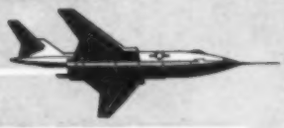

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CHECKS ACCURACY OF JET ENGINE R.P.M. and E.G.T. SYSTEMS

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2) Potentiometer
3) Ruggedized Galvos
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JETCAL ANALYZES JET ENGINES 10 WAYS!

1) The JETCAL ANALYZER *functionally* tests the EGT thermocouple circuit of a jet aircraft or pilotless aircraft missile for error *without running the engine or disconnecting any wiring.* GUARANTEED ACCURACY IS ±4°C. at engine test temperature.

2) Checks individual thermocouples "on the bench" before placement in parallel harness.

3) Checks thermocouples within the harness for continuity.

4) Checks thermocouples *and* paralleling harness for accuracy.

5) Checks resistance of the EGT circuit *without the EGT Indicator.*

6) Checks insulation of the EGT circuit for shorts to ground and for shorts between leads.

7) Checks EGT Indicators (in or out of aircraft).

8) Checks EGT system with engine removed from aircraft (in production line or overhaul shop).

9) Checks aircraft TACHOMETER system accuracy to within ±0.1% between 95% to 102% RPM.

10) JETCAL ANALYZER enables engine adjustment to proper relationship between engine temperature and engine RPM for maximum thrust and efficiency during engine run. (Tabbing or Micing).

ALSO *functionally checks* aircraft thermal switches (OVERHEAT DETECTORS and WING ANTI-ICE systems) by using *TEMPCAL* Probes.

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JETCAL

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AIR REPORT

(Continued from page 5)

Northrop Aircraft and its subsidiary, Radioplane Company, and will be devoted to activities related to Army, Navy and Ordnance guided missile and pilotless aircraft programs in that area. First installation will be a 25,000-sq. ft. pilot plant on 2 acres, with later installations at a 640-acre site 10 miles north of the city.

FIRST JET AIRLINER SERVICE by a U. S. airline was inaugurated on July 26 by Capital Airlines with 4-engine turboprop Vickers Viscount transports.

EXPANDING TEMCO AIRCRAFT SALES were up 45 per cent for the first six months this year, totalling $37,000,000. Robert McCulloch, president, said new business totalling $20,000,000 had been acquired in the second quarter. This included assemblies for the Convair B-58 supersonic bomber, North American F-100 fighter, Boeing B-52 bomber, Lockheed P2V, a new McDonnell fighter and other projects.

A TURBOPROP REPUBLIC XF-84H FIGHTER has begun flight tests to investigate supersonic propellers.

DE HAVILLAND DOVE AIRLINERS are being operated for the first time in the United States between Catalina Island and Los Angeles by Catalina Airlines. It is the shortest fixed-wing scheduled airline in the country, hops averaging only 14.5 mins. in the 12-passenger Doves. A United Air Lines senior captain heads the short line, whose pilots have over 12,000 hrs. of flying time each. Temple Davis is sales manager.

APPLICATIONS ARE BEING AC-

PLANES WITH CREWS FOR LEASE to business firms are offered by a new firm, Executive Flyers, Inc. based at Southwest Airmotive in Dallas. Chief Pilot Bob Lyle (center) is shown with Pilots Frank Floyd and Charles Pate. They operate two Lodestars, a Beech Twin-Bonanza, two Bonanzas and a Navion. Rates range from $45 to $190 hourly and include all charges, with 15% discount for 30 hrs. or more per month. D. Harold Byrd is president of the firm.
—(Tom W. Collins Photo.)

CEPTED FOR AGRICULTURAL PILOT TRAINING at Texas A & M College, College Station, Texas. The college faculty and the Texas Aerial Applicators Association will screen applications for the first course, in which assistance has been received from the Texas group, CAA, and private industry. The course will involve about 30 flight hours, part dual and part solo. Costs range up to $596 for the complete course.

THE KEY BROTHERS OF ENDURANCE FLIGHT FAME were honored recently in Meridian, Mississippi, on the anniversary of their 1935 flight of 653 hrs. 34 mins. Fred Key is now manager of Key Field, Meridian's municipal airport, and his brother, Colonel Al Key, is chief of U. S. Air Force liaison in Bogata, Colombia. After the 20th anniversary celebration, they flew their famous endurance-record plane to Washington where it will be displayed in the Smithsonian Institute as a permanent exhibit. The plane is a Curtiss Robin powered by a 175-hp. Wright Whirlwind engine.

CESSNA HAS A LETTER CONTRACT for $1,250,000 worth of L-19 instrument trainers. It has produced 2,480 L-19 Army liaison airplanes. Electric flaps are the newest L-19 improvement.

LOCKHEED CALLS ITS FAMOUS CONSTELLATION THE BILLION-DOLLAR AIRPLANE because past sales and present orders for the big

Airmen's Calendar

Aug. 15-20—National Flying Farmers Convention, East Lansing, Mich.

Aug. 24-26—Bendix-Scintilla Ignition Conference, Sidney, N. Y.

Sept. 3-5—29th National Aircraft Show, Philadelphia.

Sept. 15—Airwork Engine Forum, Sponsored by Pratt & Whitney and Bendix, Millville, N. J.

Sept. 17-18— 2nd Annual Fly-In, Antique Airplane Association, Ottumwa, Iowa.

Sept. 21—Southwest Airmotive Engine Forum, Sponsored by Pratt & Whitney and Bendix, Melrose Hotel, Dallas.

Sept. 21-22—2nd West Coast Forum, American Helicopter Society, Hollywood-Roosevelt Hotel, Hollywood.

Oct. 5-7—National Business Aircraft Association Annual Meeting, Sheraton-Cadillac Hotel, Detroit.

Oct. 5-7—National Airport Conference, Norman, Okla., Sponsored by AAAE, University of Oklahoma and CAA.

Oct. 8-15—7th Annual All-Texas Air Tour. 3,000 Miles Around the State With 42 Stops.

Oct. 11-13—ATA Annual Maintenance & Engineering Conference, Baker Hotel, Dallas.

Oct. 26-28—Southeastern Airport Managers Association Annual Meeting, Poinsett Hotel, Greenville, S. C.

Nov. 8-10—NATA Convention, Hotel Westward Ho, Phoenix.

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TWO FIBERGLAS TAYLORCRAFTS FOR SOUTH AMERICA left the Taylorcraft factory at Conway, Pennsylvania, recently on ferry flights via Miami to Asuncion, Paraguay. B. J. Mauro (left), Taylorcraft president, watches as Don Swenson and Howard Barnhouse of the factory staff prepare for the delivery. —(Taylorcraft Photo.)

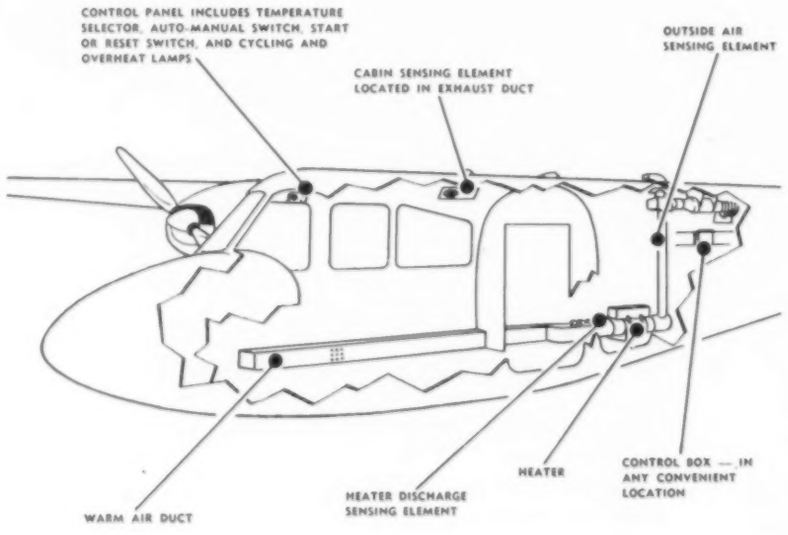
transport have brought the firm more than a billion dollars worth of business.

PIPER AIRCRAFT HAS SOLD TO VEST AIRCRAFT, DENVER, all rights to the Stinson aircraft—name and trademark, engineering data and certificates as well as its stock of Stinson parts.

TWIN-ENGINE PIPER APACHE flights are operated by Illini Airlines, Inc., between Chicago's downtown Meigs Field and Sterling-Rock Falls. Two round-trips daily are flown, except Saturday and Sunday.

WINNERS OF THE 1955 POWDER-PUFF DERBY from Long Beach to Springfield, Mass., July 2-6, included: 1. Frances Bera and Edna Bower (Cessna 180); 2. Alice Roberts and Iris Critchell (Beech Bonanza); 3. Esther Gardiner and Clarissa Holcomb (Bellanca Cruisair); 4. Margaret Callaway and Lindy Boyes (Cessna 140); 5. Marian Burke (Piper Super Cub); 6. Olive and Audrey McCormick (Piper Tri-Pacer); 7. Alice Hammond and Jean Pearson (Cessna 170); 8. Sylvia Roth and Helen Sailer (Cessna 140A); 9. Shirley Froyd and Joyce Agee (Tri-Pacer); 10. Doris Eacret and Helen McIntosh (Cessna 140A); 11. Florence Knight and Kay Brick (Cessna 140); 12. Randa Sutherland and Jocile Eddleman (Tri-Pacer); 13. Maxine Smith and Jean Clark (Stinson); 14. Irene Leverton and Gene Burson (Tri-Pacer); 15. Dee Thurmond (Cessna 195); 16. Lowanda Lane and Faye Scott (Stinson); 17. Eugenia Heise and Dora Fritzke (Cessna 180); 18. Carol Kennedy and Margie James (Cessna 140); 19. Eloise Smith and Dorothy Woodham (Bellanca Cruisair) and 20. Joyce Failing and Lauretta Foy (Luscombe).

NEW ARC CD-I COURSE DIRECTOR has a compass-slaved gyro for precise instrument approaches and en route tracking on omni and visual-aural VHF ranges. The vertical needle, which responds to the compass-controlled azimuth gyro, provides a means, even in severe turbulence, of maintaining a precise heading. Crosswind drift is automatically compensated despite abrupt wind direction and velocity shifts.


CONTROL PANEL INCLUDES TEMPERATURE SELECTOR, AUTO-MANUAL SWITCH, START OR RESET SWITCH, AND CYCLING AND OVERHEAT LAMPS
CABIN SENSING ELEMENT LOCATED IN EXHAUST DUCT
OUTSIDE AIR SENSING ELEMENT
WARM AIR DUCT
HEATER DISCHARGE SENSING ELEMENT
HEATER
CONTROL BOX — IN ANY CONVENIENT LOCATION

A new automatic cabin heater cycling control for Aero Commanders which is said to maintain selected cabin temperatures within plus or minus 2 degrees F. has been extensively tested on its own Model 520 Commander by the Barber-Coleman Company, Rockford, Illinois. The drawing above illustrates component installation of the system in a Commander.

The control is based on a temperature sensitive resistance bridge circuit using a Micropositioner, an ultra-sensitive polarized relay, as the bridge unbalance detector. The relative resistance of the temperature sensing elements located in the cabin exhaust air, heater discharge air and outside air automatically cycles the heater ignition and the fuel solenoid in accordance with cabin heating requirements, outside air temperature variations and other conditions.

Cabin temperature is selected on a rheostat on a control panel above the co-pilot seat. This panel also includes a switch to select automatic or manual operation and indicator lights to show when the heater is cycling and to warn of an overheat condition. The system is designed for maximum safety features and is readily incorporated into existing aircraft wiring. Total weight of the Barber-Coleman components is about 3.5 lbs.

Similar Barber-Coleman automatic temperature controls have been installed on DC-3, Lodestar, PV-1, A-26, B-23 and Mallard business planes. The auto controls are also available for aircraft using intensifier tube-mixing valve heating system. The new Commander system is available now to owners of Aero Commanders. ★ ★ ★

A BRITISHER SCORED HIGHEST BUT U. S. SOARING TITLE WENT TO AN AMERICAN, Kemp Targer of Detroit, in last month's 22nd National Soaring Contest at Elmira, N. Y. Targer scored 1,038 points to 1,081 for Commander Nick Goodheart, Royal Navy attache at the British embassy in Washington, and won title because it can go only to a U. S. citizen. Targer flew a T-3 and Goodheart a Schweizer 1-23. Twenty-eight pilots participated and flew a total of 15,468 miles on over 200 contest flights.

STROUKOFF AIRCRAFT CORPORATION made its first demonstration flight of the YC-123E Pantobase aircraft at Mustin Field, Philadelphia, on July 28.

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ALABAMA
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vs.
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TTA

Hostess

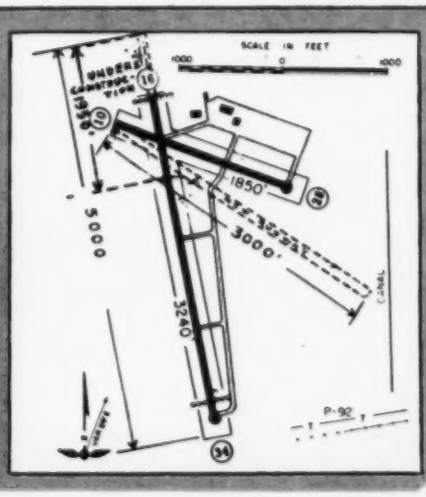
Now . . . there's nothing wrong with pampering the pilot with a little pulchritude is there?

We thought not!

There will be some other sweet surprises on the bus, too.

AND WHILE YOU'RE HAVING FUN YOUR PLANE IS GETTING THE BEST OF SERVICE

BUILDING
A BIGGER, BETTER
AIR PARK
New Runway - Extension of Old Runway - Plus many other new facilities



Bob

WELCOMES YOU
SWC Games in Houston

WE SPECIALIZE in

Beechcraft RADIO SERVICE

5-Day! installation

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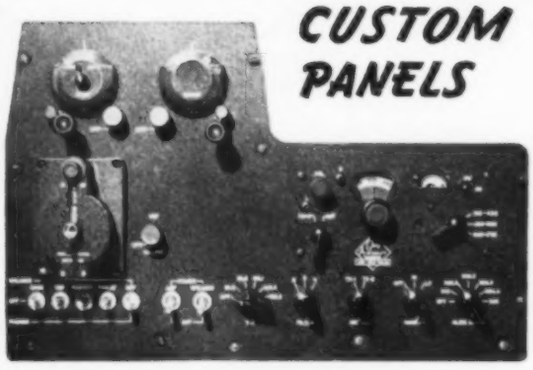

CUSTOM PANELS

FOR... TWIN BONANZAS

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FAST•EFFICIENT•COMPLETE

for...

SAFE

DEPENDABLE

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CALL ON GRAY FOR BEECHCRAFT RADIO AND AUTOPILOT INSTALLATIONS

COMPLETE INVENTORY OF LEAR PARTS

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FROM 100 HRS. TO THE NEXT — GRAY AIRCRAFT SERVICE at DALLAS — SAFE, DEPENDABLE SERVICE

There's a Gray Aircraft Service Custom Panel to satisfy any Twin-Bonanza owner's exact needs — just tell us what you want two weeks in advance and we'll guarantee 5-day installations! Many Twin-Bonanza owners prefer the Custom Panel shown above. It conveniently groups controls for an ARC 15D Omni, Lear 36-Channel LVTR-36 Transceiver, ARC Range Receiver, Lear ADF-14, ARC T-11 Auxiliary Transmitter, Range Filter, Microphone Selector, High-Low Lear 3-Light Marker Beacon and 6-Channel R-89 Glide Slope receiver. Visit our shops and let D. A. Cody explain our personalized Beechcraft service.

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CERTIFIED BEECHCRAFT SALES SERVICE

Gray Aircraft Service Co., Inc.

LOVE FIELD DALLAS

JUST AMONG OURSELVES

(Continued from page 16)

University of California, with post graduate work in medicine at the University, are not stupid. They quickly figured that the aircraft was seized in Nevada and impounded in Nevada on the order of a Federal district court for southern California, which has no jurisdiction in Nevada.

Throughout the balance of 1953 the Finns tried to get their airplane back. They sought to file a Federal complaint charging the U. S. attorney with holding the plane illegally, but the U. S. commissioner refused to issue any complaint without the signature of the very U. S. attorney, Laughlin E. Waters, charged by the Finns.

It was at this point the Finns, out of money, patience and legal advice, decided to make a "citizen's arrest" of Mr. Waters for his illegal act. This was effected in January, 1954, in front of the Los Angeles Biltmore Hotel. They hauled Mr. Waters to the police station where the constabulary refused to book the attorney. The Finns were turned over to Federal authorities, who subsequently indicted them with conspiracy, and assaulting and intimidating a Federal officer with the purpose of interfering with his official duties.

The southern California district Federal judges didn't want the case so it was tried before Federal Judge E. P. Murphy of San Francisco, who sat in Los Angeles. They were convicted by jury trial, sentenced on June 21, 1954, to one year each and were refused bail pending appeal. In

NEW POGO PILOT CHECKOUT presents a confusing picture. That's Convair Test Pilot J. F. (Skeets) Coleman at right, and the new test pilot is John Knebel in the cockpit of the vertical rising Convair XFY-1

—(Convair Photo.)

protest the Finns began a hunger strike. After 23 days the Ninth U. S. Circuit Court of Appeals set bonds for the Finns at $1,000 each. They were freed and recovered physically after several days of hospitalization.

In October of 1954 the Government's civil suit against the Finns went to trial in the U. S. District Court. Judge William C. Mathes handed down a decision in favor of the Finns and completely *against* the government. The government was ordered to return the plane to the Finns in its original condition or, if that was impossible, to pay them $50,000 plus $15 a day rental for every day it had held the aircraft.

The government then appealed this decision and the matter is now pending before the Ninth U. S. Circuit Court of Appeals.

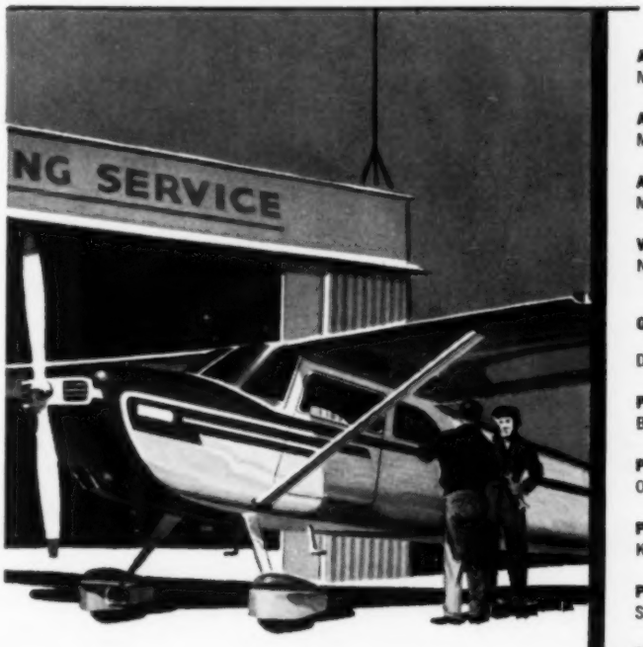
In January of this year the Finns lost their appeal on the "citizen's arrest" case. They then appealed to the U. S. Supreme Court, which refused to hear the case on a technicality of elapsed time before filing. On April 19 the Finns were again arrested to begin their one-year sentences. They immediately launched a new hunger strike and were transferred to the Springfield (Missouri) Medical Center for Federal Prisoners where, up until mid-July, following a visit by Senator William Langer, the twins were strapped down daily and fed through the nose.

The Finns will not be eligible for parole until August 19. There is no indication that they will ask for parole as that would be an admission of guilt. They are steadfast in their conviction that they are guilty of no

(Continued on page 43)

NAVY MID-AIR REFUELING of a Chance Vought F7U-3 Cutlass fighter is shown in this unusual Navy photo by Lt. John H. Cover from directly overhead. The aerial tanker is an AJ-2.

Mr. Fixed-Base Operator:



Airwork Corporation
Miami, Florida

Airwork Corporation
Millville, New Jersey

Aviation Electric Ltd.
Montreal, Canada

W. J. Connell Company
Newton Upper Falls, Massachusetts

General Aircraft Supply Corporation
Detroit, Michigan

Pacific Airmotive Corporation
Burbank, California

Pacific Airmotive Corporation
Oakland, California

Pacific Airmotive Corporation
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REDUCE YOUR PARTS INVENTORY, INCREASE OPERATING EFFICIENCY...

by calling the Bendix Distributor nearest you!

The services of authorized distributors handling parts and units for Bendix* carburetion systems or landing gear equipment can mean a great deal to fixed-base operators.

For by buying through the nearest Bendix Distributor, fixed-base operators can reduce inventory—eliminate follow-up costs—economize on transportation—keep obsolescence at a minimum—reduce product deterioration, insurance, storage space and taxes.

Sounds like a lot to promise, but if you will get in touch with your nearest Bendix Distributor, he will be glad to demonstrate just how the program works.

*TRADE-MARK

Struts, wheels, brakes and Cornmetallic brake lining.
Injection and float-type carburetors, direct fuel injection systems.

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Service Designed For Business Flying

Cessna aircraft owners fly more hours per month and cover more miles of territory per hour than ever before — because their Cessnas were designed for service efficiency in the air and on the ground.

Business fliers stay on the go more by depending on our Authorized Cessna Service to keep their aircraft always ready for reliability, performance and comfort. We know their needs best because our factory-approved facilities and staffs specialize in factory methods, equipment and accessories.

Get the most out of your Cessna by taking advantage of the three important service features guaranteed by our factory-supervised Cessna Flat Rate Program:

1. You get an accurately quoted price and time-required quotation based on hundreds of job studies covering virtually all maintenance needs.

2. You get genuine Cessna parts and factory-trained workmanship.

3. You save money and time and we stand behind every job for your fullest satisfaction.

To make the most of your Cessna's usefulness, visit the Authorized Cessna Service Stations listed below.

These progressive Cessna Authorized Service Shops offer flat-rate service.

Aircraft Sales Company
Meacham Field
Fort Worth, Texas

Champ's Aviation, Inc.
Municipal Airport
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Clinton Aviation Company
Stapleton Airfield
Denver, Colorado

Cruse Aviation, Inc.
Municipal Airport
Houston, Texas

Dal-Tex Aviation, Inc.
Highland Park Airport and Love Field
Dallas, Texas

Hair Flying Service
Harding Field
Baton Rouge, Louisiana

Howard Aero Service, Inc.
San Antonio International Airport
San Antonio, Texas

Poelman Aircraft Co.
New Orleans Airport
New Orleans, Louisiana

Ragsdale Flying Service
Municipal Airport
Austin, Texas

Kenneth Starnes Aviation Service
Adams Field; Little Rock, Arkansas

Southwestern Skyways, Inc.
Municipal Airport
Santa Fe, New Mexico
and Ogden, Utah

Sunny South Aircraft Service, Inc.
Broward International Airport
Fort Lauderdale, Florida

Yingling Aircraft, Inc.
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More Than 100 "Pluses" You'll Want

Count them as your Cessna dealer names them . . . more than 100 extra-value features on the 1955 Cessna 170 that you won't find on any other low-priced airplane! Big features, little features that add up to greater comfort, smoother operation, greater dependability and safety. Yet this all-metal, extra roomy, 6-cylinder airplane is priced just above the lowest. With all its extra features—it's only $8,295. See it at your Cessna dealer's now. (He's listed in the yellow pages of your phone book.) For more information, write CESSNA AIRCRAFT CO., DEPT. FM-8, WICHITA, KAN.

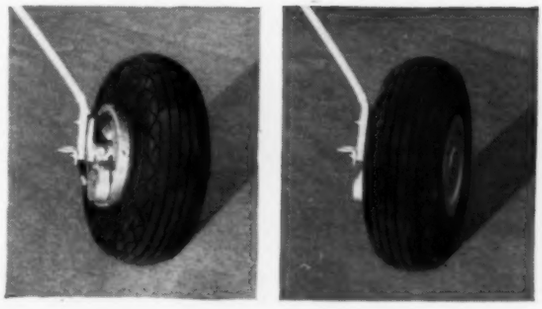
Cessna

More Cylinders—Smoother "Pull"

Even in a 60-degree bank, the glass of water placed atop the Cessna instrument panel doesn't vibrate or slide off. Reasons: Cessna's smooth, dependable 6-cylinder engine; Cessna's stable high-wing design; Cessna needle-point control bearings for quick, smooth control handling. Features that add up to smooth, comfortable, effortless flying.

Easiest, Safest Take-offs, Landings

New Positive-steering tail wheel and famous Goodyear castering wheels (opt. now for only $245) let you land, taxi and turn the 170 more easily, safely than any airplane in its class. Wheels pivot to parallel runway even when gusts alter direction of airplane. Makes cross-wind strips easy to use.



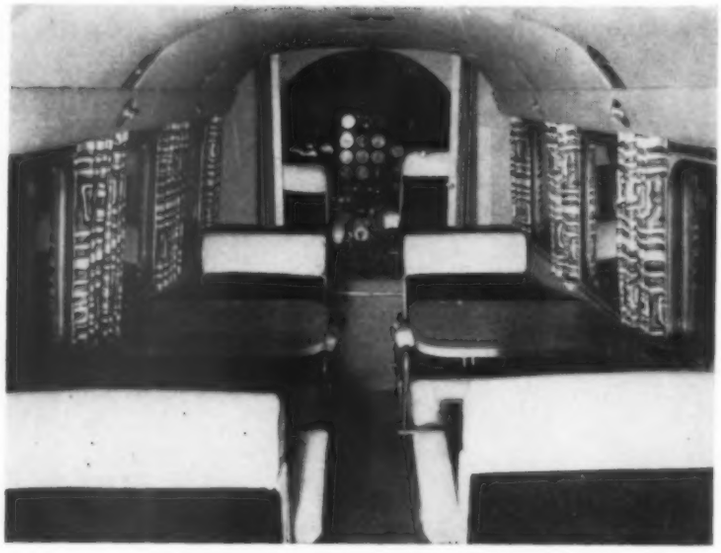
More Comfort Extras

Cessna 170 offers thick foam rubber seats, *widest* rear seat in its field by 8 inches! PLUS other standard equipment extras: Two yard-wide doors offer access to front and rear seats from *either* side of cabin . . . 6-outlet heating-ventilating system—120-lb. luggage space—*all* seats adjustable—longest, widest cabin, most leg room in its field.

CESSNA 170 180 195 310 THE COMPLETE AIR FLEET FOR EVERY BUSINESS NEED!

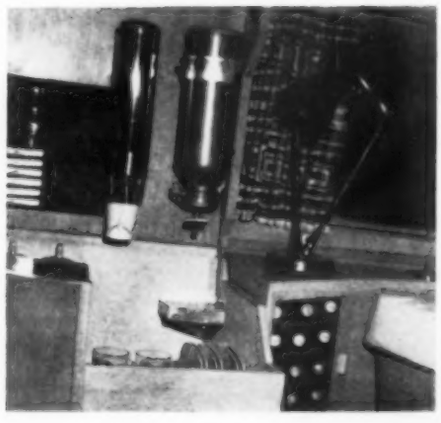
Your own Model 18 can have this

Custom 18 Conversion



Make your travels pleasant and refreshing, as you relax in a roomier, more convenient cockpit, or spread out luxuriously in comfortable, adjustable reclining chairs in the spacious new modern interior. Plenty of big windows for easy vision, and an ingeniously fitted snack bar for in flight meals or tidbits.

Write for an estimate today, and see what a little imagination and experience can do for your plane.



SUPER-92 DC-3 ready in August

with your choice of engines: Pratt & Whitney R1830-75, -94, R2000, Wright R1820-56, -72. Collins or Bendix radio, new ship guarantee, complete 8,000-hour overhaul, beautiful custom interior, big windows, 200 mph.

REMMERT-WERNER, Inc.

PErshing 1-2260 Lambert Field St. Louis, Missouri

JUST AMONG OURSELVES

(Continued from page 39)

crime, that they are not felons and that their constitutional rights have been violated.

Without setting ourselves up as legal experts, or as judge or jury, we maintain that the United States government made the first blunder in the case by singling out the Finns from the scores of others who have purchased and re-sold military surplus aircraft and further, that the U. S. government, in appealing the case they lost in the lower court, broke the Finns financially and set off the bizarre chain of events that have now made it no less than a "cause celebre."

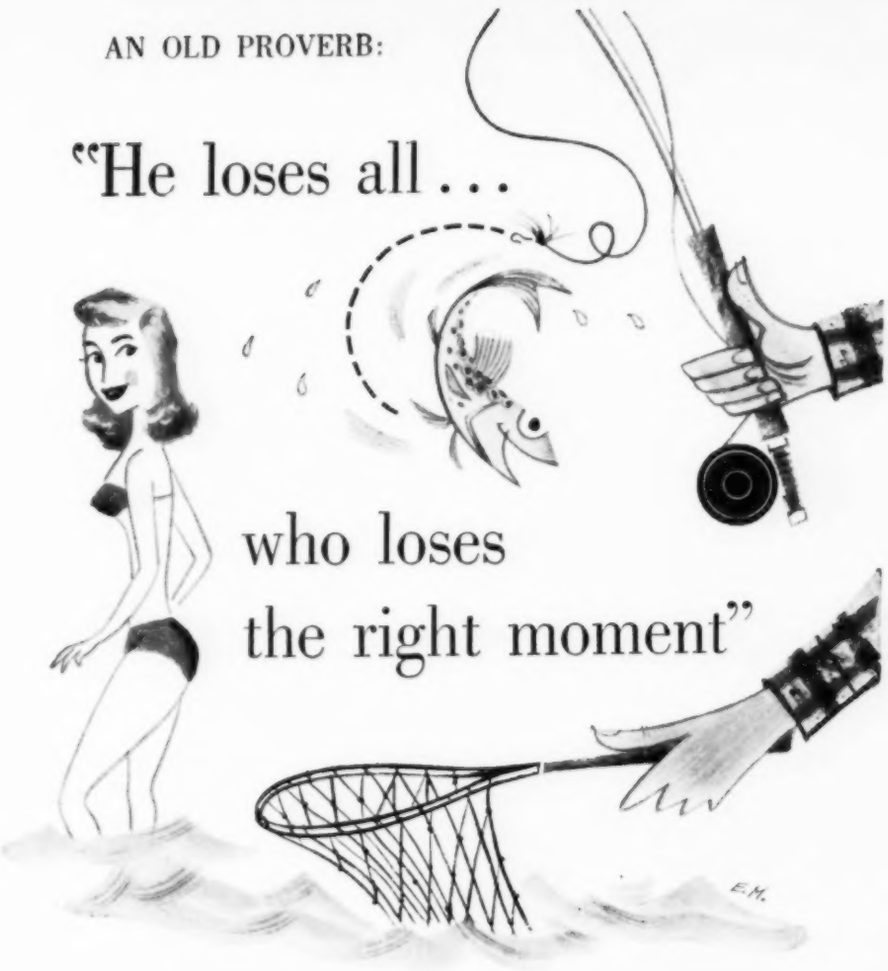
If and when the Finns are released from prison, the Senate subcommittee on constitutional rights will hold a hearing on the case. Meanwhile a couple of World War II combat pilots, both of whom volunteered for duty and both of whom flew the Berlin airlift, are doing time in a Federal pen. All for what?

We believe the Congress of the United States will act in the case. But full restitution can never be made, even if the hearing is favorable to the Finns. Since July 3, 1952, when the U. S. first filed suit on the C-46, the Finns have known nothing but trouble. One newspaperman recently commented that had they been Communists instead of a couple of plain, ordinary American citizens, they probably would have had unlimited legal assistance and the help of such outfits as the American Civil Liberties Union, which has always jumped to the rescue of known traitors in the

NOSE FOR BUSINESS is displayed in this unusual flight photo of a Lockheed Super Connie with which Duetsche Lufthansa, the reborn German airline, resumed trans-Atlantic passenger service recently after 17 years of inactivity.
—(Lockheed Photo.)

AN OLD PROVERB:

"He loses all . . .



who loses
the right moment"

This is a good time to consider whether or not the moment has come for you to make the change in your employment that can mean the beginning of a successful, productive and happy future.

Opportunities are outstanding right now at Fairchild Aircraft Division, for experienced aerodynamists and designers looking for interesting, provocative work in the forefront of aviation design, research and development.

Take stock of your present job. See whether you wouldn't rather have the kind of progressive, active and interesting job that Fairchild is offering to the right men.

Send your resume today to Walter Tydon, Chief Engineer.

ENGINE AND AIRPLANE CORPORATION
FAIRCHILD
Aircraft Division
HAGERSTOWN, MARYLAND

"where the future is measured in light-years"

interest of "constitutional rights." It is a sad commentary on the times.

But crying in one's beer, or sitting around feeling sorry for the twins doesn't help the Finn boys. Someone should take up a healthy collection and present them with a check when they walk out of the Springfield pen. Top on the list of donors should be American airmen who know something about surplus disposal policies and just how ridiculous the original lawsuit against the Finns really was.

Their address: Charles and George Finn, Medical Center for Federal Prisoners, Springfield, Missouri, U. S. A.

★ ★ ★

IKE'S NEW PLANE

ONE of the greatest stimulants to popular acceptance of business airplanes is President Eisenhower's use of a new Aero Commander. He and his aides say he uses it for short trips simply because it saves time and is safer than the crowded highways. This, of course, is the same basic reason why some 20,000 other modern business planes are being used in America — but when the President of the United States chooses an airplane, it dramatizes the light twin aircraft's usefulness, dependability, speed, comfort and convenience.

President Eisenhower leaving a new twin-engine Aero Commander, assigned to him by the Air Force for short trips.

This endorsement applies not only to the particular type assigned to the chief executive by the Air Force, which has ordered 15 Aero Commanders for staff and executive use in the Washington area, but to all modern business planes. The popular view is, "If Ike can fly, why can't I?" Many a business executive can now point to Ike when convincing company bosses and directors, wives and associates that business flying is an effective, efficient and dependable tool for today's travel needs.

We think other government officials, and especially military leaders, should follow the example of President Eisenhower. The light twins on the commercial market offer a great many advantages — if they are valuable to businessmen in private enterprise, as they certainly prove every day in the year, then they should also be valuable in serving government and military travel needs. This is especially true when relatively short trips are involved and particularly when only a few persons or a light load are to be carried. It is absurd for large military airplanes to be used for the convenience of three or four passengers when a variety of economical, fast and efficient light twins are available on the commercial market. These smaller airplanes have earned far more recognition than they have received from government and military procurement agencies.

Excellence of aircraft equipment is behind the growing acceptance of business planes. They are worthwhile only because quality has been designed and built into them. They are useful only because performance and comfort have been engineered into them.

★ ★ ★

in Omni equipment also . . .

IT'S EASIER WITH TWO!

A helper on any job brings results with half the effort . . . and in flight navigation a dual ARC Omni installation can double the pilot's efficiency, ease and confidence. He can make a fix *faster* with dual omni 15D equipment . . . fly any omni track while also cross-checking for position. And it's easier to make transition from omni to runway localizers.

Where there are two pilots, the work load can be shared by using both omni instruments simultaneously for different jobs.

ARC 15D Omni is compact, lightweight, CAA certified. Its new course indicator now combines course selector and cross-pointer meter in a *single* space-saving unit.

Let ARC DUAL Omni lessen your flight fatigue. Detailed specification data on request.

Dependable Airborne Electronic Equipment Since 1928

Aircraft Radio Corporation

BOONTON, NEW JERSEY

Omni Receivers • 900-2100 Mc Signal Generators • UHF and VHF Receivers and Transmitters • 8-Watt Audio Amplifiers • 10-Channel Isolation Amplifiers • LF Receivers and Loop Direction Finders

COMMERCIAL COPTERS

(Continued from page 28)

outnumber other makes 3 to 1 in foreign areas.

Twenty-two commercial Bell Model 47 helicopters were delivered during June and July, 1955. Weadock said there is a slow transition from a seller's to a buyer's market now going on. "This keeps us on the move, continually pushing ahead in market development, sales promotion and customer contact," he said.

Bell is engaged in studies and tests of various types of propulsion systems, rotor combinations (it is the only helicopter manufacturer to build both single and tandem rotor craft), instrument development, wooden and metal rotor blade studies and numerous scientific investigations. Next year, a 4-place helicopter, the Model 47J, will be added to its commercial line. This will offer the commercial customer a choice of four different models and a wide variety of accessories and kits.

One noteworthy feature of today's high level of demand is that more private business firms are adding helicopters to their aircraft fleets. Also, orders for this year's production are more equally distributed between domestic and foreign sales. In the past, roughly 70 per cent of Bell's commercial helicopter production was exported. Today the division is 50-50 between domestic and foreign sales.

"Today," Weadock said, "one fourth of our increased business is first sales, and approximately half of them are to private business firms."

NEW BEECH DISTRIBUTOR is Piedmont Aviation at Winston-Salem, N. C., covering North Carolina, Northeast Tennessee, part of Virginia, and West Virginia. Seated are Tom H. Davis, Piedmont president (left) and Beech Sales Manager Leddy Grever. Looking on are Bob Northington (left) and Marvin (Silent) Small, Beech sales representative.

IT COSTS LESS TO FLY

WITH CONTINENTAL POWER

Continental's continuing interest in its product, after the sale, makes a big reduction in the cost of plane ownership and use. Continental aircraft engines are not only built to absorb their full share of punishment, but backed with the kind of service that keeps them running year after year. When major overhaul time rolls round, the owner can replace his engine with a factory-remanufactured power plant—back to zero hours, and with factory new engine guarantee—at very low fixed cost and with virtually no dead time. Continental's Factory Remanufacturing Plan is one more in a long list of reasons underlying pilot preference for planes with Continental power.

• • •

PARTNERS IN MAKING PRIVATE FLYING THE SAFEST MEANS OF TRAVEL

S·A·E 1905 GOLDEN ANNIVERSARY 1955

Continental Motors Corporation
Aircraft Engine Division
MUSKEGON, MICHIGAN

KING-SIZE CROSS-WIND LANDING GEAR, proved practical on light business planes, is now standard equipment on Boeing B-52 bombers. Boeing says it allows the 350,000-lb. B-52 to use many more existing runways than possible with non-swiveling gear. It can be pre-positioned from the control cabin to permit take-off or landing in a crabbing attitude, with the airplane nose into the cross-wind while the wheels follow the runway direction, as pictured above. Company pilots call the cross-wind gear "the pilot's friend" because it simplifies landing technique.

(Boeing Photo.)

Weadock emphasized that this indicates a growing trend on the part of American business and industry to recognize the helicopter as an effective competitive tool.

Particularly encouraging is the fact that commercial helicopter services have gained rather than lost business as companies buy their own helicopters and further prove the value of the versatile craft to industry.

Such prominent companies as Anaconda, Magnolia, Shell, Colorado Interstate, Radio Material Corp., United Manufacturing Corp., Glasscock Drilling and many others now own and operate their own Bell machines. Weadock points out that firms of this caliber are not likely to indulge themselves in "flying gimmicks" as some skeptical "authorities" have classified the helicopter.

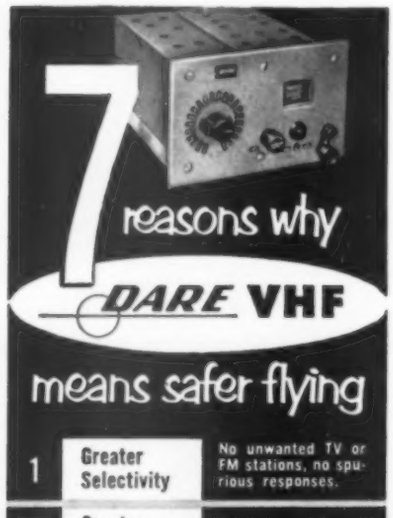
The best indication of Bell's quickening sales is a listing of the more recent deliveries and the uses to which these firms are putting the craft to work.

1955 Sales (all Model 47G): Anaconda (exploration), French Navy, Cleveland Air Taxi (general charter), J. McMann (exploration), French Army, Rotor Aids (offshore operations), Swiss Helicopters, Fenwick of France (training), Waggoner ranch, Canadian Department of Defense, Aerotechnica (general charter), Canadian Department of Transport, Spartan Air Service (general operation), Helicopter Air Service (air mail), Surinam (transportation), Agro Aera (agriculture), Jack Reynolds (agriculture), Spanish Guiana (general charter), Keystone Helicopters (general charter), Petroleum Helicopters (exploration), and Aero Copters (general charter). This is just a partial list.

In the last few weeks Bell made the following deliveries :

Model 47G: Colombian Air Force, Pacific Helicopters, Hawk Helicopters, United Manufacturing Corp., Royal Canadian Navy, Glasscock Drilling, New York Trap Rock Corp., Pipeline Construction and Drilling and others to be delivered.

Model 47G-2: Fenwick (dealer), Helicopters, Inc., Aero Copters, Colorado Interstate Gas Co., Pipeline Construction and Drilling, Spartan Air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DARE VHF
means safer flying
1 Greater Selectivity
No unwanted TV or FM stations, no spurious responses.
2 Greater Receiver Sensitivity
2 microvolts or better for 50 milliwatt output.
3 Positive Receiver Tuning
Gear Drive can't slip or bind. Glare-proof black dial is easy to read, day or night.
4 No Drift
Because all high voltage is electronically regulated.
5 Low Omni Course Error
2 degrees or less, on any course.
6 Powerful Transmitter
3 to 4 watts output on any channel, 118 to 127 mc.
7 Dynamotor Power Supply
No vibrators to stick, always reliable.
Available from your distributor, or write
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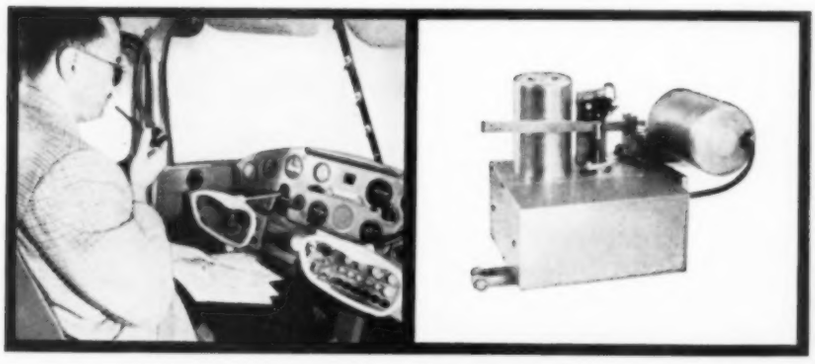
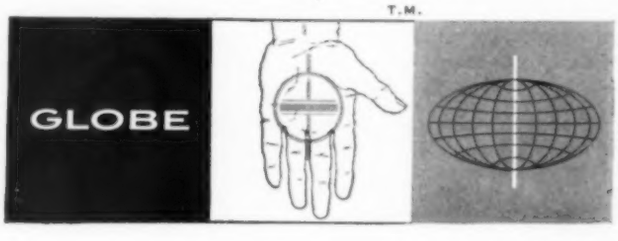


LET GLOBE TAKE THE RUDDER

. . . and sit back and relax

The new Globe Gyro-Stabilizer will take you there comfortably, safely. Straight flight or controlled, stable turns are yours at the turn of a knob. Unwanted turns are automatically detected and corrected . . . lets you relax from the strain of constant manual rudder control. Lightest in weight, easiest to install, lowest in price. May we arrange a demonstration of the new G/S for you? Write *Globe Industries, Inc., 1788 Stanley Avenue, Dayton 4, Ohio.*



COPR. 1955 GLOBE INDUSTRIES, INC.

service, Colombian Air Force, and others to be delivered.

Model 47H-1 President of Colombia, Larry D. Bell, Hubschrauber-Vertribes (dealer), Cleveland Air Taxi, Radio Materials Corp., and others to be delivered.

Bell reports that the new look in helicopter sales promises even bigger and faster market expansion, especially with the coming of the four-place, versatile Model 47J. ★ ★ ★

AVIATION MANUFACTURERS AND DISTRIBUTORS ASSOCIATION members gathered at Brainerd, Minnesota, recently heard speakers including H. W. Boggess (left) president of the National Business Aircraft Association, and Don Nyrop (third from left), president of Northwest Airlines. Others in the picture, left to right, are ADMA Officers Jim Riddle of Narco, president; Bob Northington of Piedmont Aviation, vice president, and Jack Moore of Reading Batteries, vice president.

FLYING FOR BUSINESS

(Continued from page 23)

more than $20,000,000 annually for the last several years.

This not only requires long office hours and frequent flights from one plant to another, which keeps Nichols going at a pace which would burden an executive of much younger age, but necessitates frequent nationwide "selling" tours on which he personally interests investors in the large volume of common and preferred stocks and other financing necessary for expansion of his company.

"Without the airplane, I could not do all this in the allotted time," he explains. His associates say it would take several junior executives to do the same job he handles alone. His handling of the expansion is the most efficient method since he, as chairman of the board and master planner for the firm, is the fountainhead of all the details and can therefore supply all the answers which investors need.

Selling an electric company's expansion is actually the promotion of the firm's territory, for the growth of the area determines the volume of business the firm handles. The most effective method of selling this territory has been the annual filming of a sound movie which depicts the growth of cities, communities, agriculture and industries in the Southwestern Public Service Company region — rather than chart the growth of the company itself. Mr. Nichols uses his Beech to make as many movie showings as possible to investors in the nation's leading financial cities. He always "brings home the bacon."

"I've been using airplanes in my business since the early 1920's," he said. "I used to sit on the mail sacks in the open-cockpit mail planes. I even sold securities in Europe, chartering airplanes over there so I could cover more cities in less time."

His company is one of the fastest growing electric services in America because he has been able to do the work of several men — with the aid of a company airplane which operates around the clock. ★ ★ ★

FOR SALE: Fast Executive Douglas A-20G
$45,000 From Owner

★ Cruise 280 at 10,000 ft. ★ 940-gal. Fuel Cap.
★ 1,700-mi. Range. ★ Oxygen for Crew and Cabin
★ Executive Interior ★ 4-5-pl. Cabin
★ Buffet and Lavatory ★ Large Baggage
★ Wright R-2600-29 Engines ★ 78 Hrs. Since OH
★ 1,100 Hrs. on Airframe, 9 Hrs. Since OH
★ Prop Anti-icers ★ Red and White Paint
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Questions and Answers for Operators

Return of the Airport Kid

QUESTION: Something happened to me last week that took me back twenty years. I am an operator now but in those days I was working for wages as an instructor and "wages" is a sort of an exaggeration.

A kid who turned out to be just under sixteen drove up to the hangar recently in a Model A that sounded as sweet as a banker saying yes. He got out and started for the office door but on the way he just had to stop and look over a Bonanza sitting on the apron. When he could pull himself away he gave it a pat and came into the office.

His wants were simple. He wanted to learn to fly. To pay for his instruction he wanted to work for me at anything I had that he could do, including the dirty work around the shop. There had been many a kid like that around twenty years ago, but I hadn't seen one for a long time. He had to have a reason in this day and age, for kids seem to be different to me now. He had it and it wasn't the same as the reasons I was used to hearing. He had no intention of being an airline pilot nor did he have any thought of working in any branch of aviation.

He had his education planned. After he graduated from high school next year he was going to A. & M. to major in mining engineering. The ability to fly was just one of the tools he felt he would need in his trade. I asked him who had given him that idea, thinking perhaps some teacher in high school had put the thought in his head. That didn't turn out to be the case.

The idea had come to him from the names he saw painted on shiny aircraft at a dozen airports he had seen. Those names represented to him successful business and therefore successful men. That was what he aimed to be.

He started to work for me that afternoon. He gets a salary and buys his instruction. It seems more businesslike to me. The boy has taken over the servicing and movement of executive aircraft and already the customers are noticing a difference. On his sixteenth birthday, which happened this week, a businessman who hangars with me gave the kid a trip to St. Louis with him.

I really don't have a question for you, but as I write one comes to me that maybe we operators all should be able to answer. Business and executive flying have been growing steadily. We know that from the increase on hours flown as publicized by the CAA. Some of us have been under the impression that the big opportunity to serve that segment of aviation lies in the major cities, but my books show that, in the moderate-size town in which I live, the most stable part of my income is coming from the businessman. Is that just a product of the present prosperous time or is it something which we can expect to stay with us, with the necessary adjustments inherent in good and lean years?

ANSWER: We would not presume to answer that question in the form in which you have given it. A great deal will depend upon how thoroughly the individual or the corporation using aircraft records and analyzes that use. There is always a temptation, when business slides, for management to lop off what some executive or the bank thinks is a luxury. And an aircraft may seem like just that unless its use has been prudent and the economy of its utilization can be presented in terms of profit.

To do this requires more than a set of books showing operating costs, miles and hours flown. A true analysis of the business or company-owned aircraft will include all that plus the effect of the use of that means of travel on the output of employes and

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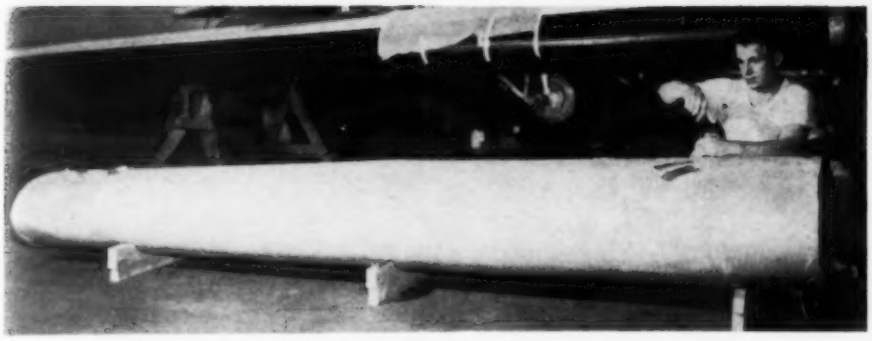

FOR GREATER DC-3 RANGE IN BUSINESS FLYING, 400 gals. of additional fuel can be carried in new outer panel auxiliary tanks offered by Reading Aviation Service, Reading, Pa. One of the 200-gal. cells is shown above. It fits inside the outer panel, in which the original webbing is removed and six new reinforcing formers are installed. The filler neck is flushed in with the wing top side. According to Capt. Skip Wittner, Kewanee Oil pilot in whose Douglas this installation was made, flight characteristics remain the same. —(Reading Aviation Photo.)

executives in productive activities. Complete inquiry into the use of each aircraft is necessary in such research. Flying in non-productive activities, if it occurs, may offset some of that saving, but that is easy to correct.

Such analysis may show that the aircraft, properly applied to the travel needs of the user, may enable fewer personnel to perform the same duties during lower levels of business than would travel by any other means. Of course, if economy dictates no travel, records will do little good unless they serve to show the necessity.

When money isn't coming in, opinions and beliefs will not keep aircraft in a company operation unless they are backed by good comparative cost figures which measure both travel costs and payroll related to income produced.

The time to get such figures together and in which to discourage non-productive use of aircraft is when business is good. If you wait until the hangar door is locked it is too late.

It is difficult to visualize the extent of the dependence business places on air travel from bare figures of hours flown, despite the fact that it is reported to have been in excess of hours flown by air carriers in 1953.

To bring the use of aircraft by business into relation to a town of about your size, Shelby Kritser gave us some figures at breakfast one morning last month which provided a clear demonstration of the widespread use of aircraft in business. He said a survey showed that of the 63 aircraft based at his Tradewind Airport, Amarillo, Texas, 56 were being depreciated. Compare that with the picture at any airport in the forties.

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Keeping Hangars Swept

QUESTION: Is there any answer to the problem of keeping hangar floors clean, especially of dust? It seems that we no more than finish sweeping up when we find the floors are dusty again.

ANSWER: We would like to hear from our readers on that. Strict discipline can keep floors free from rags, waste, paper, cigarette butts and that sort of dirt but bare concrete floors frequently look dusty when they may not be. Part of the difficulty may lie in the type of finish.

However, we have noticed for years that painted hangar floors always look cleaner than unpainted ones. It may be that painted floors are easier to sweep and mop. We have known one or two operators who had painted

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New Orleans Airport, New Orleans, La.

floors and who also applied a wax job to them once in awhile to keep the appearance tops.

We know that it is impossible to keep a hangar sealed because even with tight construction, doors must be opened to move aircraft in and out. Papers and trash seem to have a way of finding their way to airports. After a high wind, fences may be lined with old newspapers and weeds. Keeping hangars clean takes time inside and out, for what's outside may blow in the minute you open a door.

Help Wanted on Birds

QUESTION: A customer of ours is having sparrow difficulty in his hangars and this complicates the matter of keeping his customers' aircraft clean.

To help him, we are trying to find the name and address of the manufacturer of an ultra high frequency vibrator which sets up an intense squealing sound. It is apparently disquieting to sparrows and chases them out of the hangar.

AERO COMMANDER DISTRIBUTOR in Dallas is Dallas Aero-Tex Corp., of which Leo S. McIntire (right, above) is sales manager. With him are P. B. (Jack) Garrett, Dallas banker, and A. W. McGrew, Aero-Tex salesman.

Perhaps you know of such a unit and its manufacturer. How can I contact him?

ANSWER: We can't locate any such vibrator although we have heard of the gadget.

If any reader can supply the information requested in the question, please let us in on it and we'll not only pass it on to the operator who sent in the question but we'll give it a plug. The bird problem is one needing a solution in many hangars.

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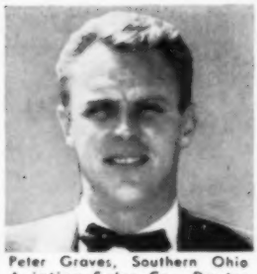
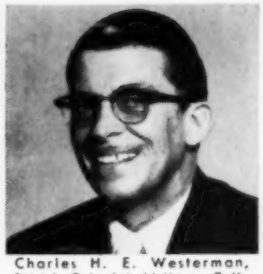


Peter Graves, Southern Ohio Aviation Sales Co., Dayton Municipal Airport, Vandalia, Ohio.

H. Leibee Wheeler, Buffalo Aeronautical Corporation, Buffalo Municipal Airport, Buffalo, New York.



Charles H. E. Westerman, British Colonial Airlines, Calle Lopez No. 1 — Despacho 502 Mexico, (1) D.F., Mexico.

John A. "Jack" Baumann, Santa Monica Aviation, Santa Monica Airport, Santa Monica, California.

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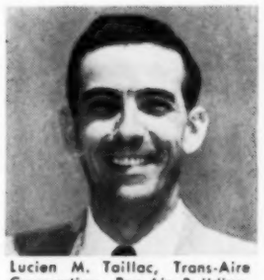

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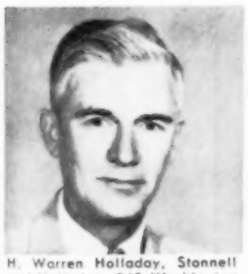
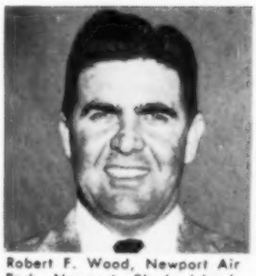


H. Warren Holladay, Stonnell and Holladay, 843 Washington Building, Arlington Towers, Arlington, Virginia.



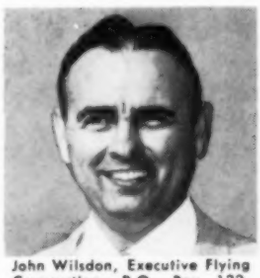
Robert F. Wood, Newport Air Park, Newport, Rhode Island.

Louis Humphreville, Executive Aircraft Corporation, Municipal Airport, Pontiac, Michigan.

Art Meurer, Arthur Meurer Co., Inc., LaGuardia Field, New York, N. Y.

Max R. Brand, Aero Commander Dist. (Downtown Airpark), Hangar 3, Municipal Airport, Tulsa, Oklahoma.

O. [illegible] Callan, National Aero Sales Corp., Midway Airport, Chicago, Ill.



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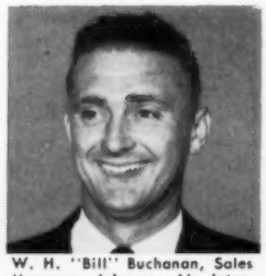
A. M. "Sime" Bertolet, Reading Aviation Service, Inc., Municipal Airport, Reading, Pennsylvania.



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